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ABSTRACT

Pursuant to developing an interactive system for planning and managing vocational education programs, the project focused on methods of obtaining student supply and manpower demand information. The goal was to operationalize a student data base that would facilitate planning and regulatory requirements of the Illinois Department of Adult, Vocational, and Technical Education, and to operationalize manpower demand data base projections. The development of both components included systems design, refinement, and testing. Model data files developed for the two components included (1) a student file encompassing all students in vocational courses, containing social security number, name, birth date, sex, courses taken, and program area; (2) a public school file identifying vocational programs, courses, and staffing patterns; (3) a teacher file containing social security number, birth date, experience, full-time employment, and courses taught; (4) data on program completers and supply from private training sources; (5) an occupational profile of the Illinois labor force; and (6) a manpower demand file of current to five-year requirements. (This report includes a ninety-five-page appendix which contains information, forms, and procedures used in developing the project.) (BL)

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Final Report

Project No. V0253VZ
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ILLINOIS MULTIFARIOUS, STUDENT-BASED MANAGEMENT-ORIENTED INFORMATION PROJECT

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December, 1976

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
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ABSTRACT

The Illinois Department of Adult, Vocational and Technical Education (IDAVTE) ultimate goal is to develop an interactive system for planning and managing vocational education programs. The Multifarious, Student-Based, Management-Oriented Information System Project was the first iteration and focused on student supply and manpower demand.

The goal was (1) to operationalize a student data base that would facilitate planning and regulatory requirements of IDAVTE and (2) to operationalize manpower demand data base projections.

The development of both components included:

(1) refinement of system's requirements;
(2) preliminary design specifications;
(3) detailed systems design; and
(4) programming and testing.

Major data files developed for the two components include:

1. A student data file, encompassing all students in vocational courses, containing social security number, name, birth date, sex, courses taken and program area.
2. A school file on public schools identifying vocational programs, courses and staffing patterns.

3. A teacher file containing name, social security number, birth date, experience, FTE and courses taught.
4. A supply matrix containing data on program completers and supply from private training sources.
5. A profile of the occupational composition of the Illinois labor force.
6. A manpower demand file containing current, one- and five-year requirements by occupation within industry and future employment level of that industry.

PREFACE

The Illinois Department of Adult, Vocational and Technical Education has been actively involved in research and development efforts during the past four years to conceptualize, design, and refine information gathering activities to facilitate decision-making and management of vocational education programs at the state and local level. The ultimate goal is to integrate nine information gathering activities into a single, viable, interactive system that will provide sound information for planning and administering vocational education programs in the State of Illinois. Each of the nine components has been defined to serve special functions as outlined below:

A. STUDENT SUPPLY COMPONENT

--Will collect course and program data on vocational students each semester;

--Will report student information back to each school;

--Will provide enrollment summaries and other student information to other parts of MIS like Follow-Up, Supply/Demand Interface, Three-Phase Evaluation;

--Will replace much work currently involved in reporting student enrollment data to the State; and

--Will speed the calculation of reimbursement.

B. MANPOWER DEMAND COMPONENT

--Will collect data on the job market and the demand for vocational trainees in certain occupations;

--Will report this data to local schools, regional planners, and DAVTE personnel; and

--Will provide this data to other parts of the MIS, such as Supply/Demand Interface.

C. SUPPLY/DEMAND INTERFACE COMPONENT

--Will receive data from the Student Supply Component and the Manpower Demand Component;

--Will project future completers of vocational programs at the district, county, regional and state levels for five years into the future;

--Will compare the supply of vocational program completers with the demand for their services in the labor market; and

--Will report this information to vocational planners and administrators at the school, county, regional and state levels.

D. COST COMPONENT

--Will collect data on all costs of vocational courses and programs, such as equipment, supplies, personnel, space and overhead costs;

--Will calculate the cost of running various vocational courses and programs throughout the state;

--Will provide cost data to other parts of the MIS, such as Three-Phase Evaluation; and

--Will report cost information to vocational planners and administrators at the district, county, regional and state levels.

E. THE FOLLOW-UP COMPONENT

--Will collect data on vocational program alumni/alumnae from the former students themselves and their employers;

--Will support current LEA follow-up efforts to eventually replace some, if not most, of their follow-up responsibilities;

--Will provide follow-up data to other parts of the MIS, such as Three-Phase Evaluation and Supply/Demand Interface; and

--Will report follow-up information to the LEA's and the state on an annual basis.

F. THE THREE-PHASE EVALUATION COMPONENT

--Will collect data from the vocational program approval and evaluation activities currently in use at DAVTE;

--Will draw data from other parts of the MIS to assist in such activities as the writing and approval of Local District One- and Five-Year Plans, and the evaluation of local vocational courses and programs; and

--Is currently functioning within DAVTE at this time, but has not been integrated into the MIS.

G. TEACHER SUPPLY/DEMAND COMPONENT

--Will collect data on the availability of vocational teachers, according to their geographic location and areas of professional competence;

--Will collect data on demand for vocational teachers in new and expanding programs;

--Will compare supply with demand and report such information to teacher education institutions, and local and state education agencies; and

--Can assist in the preparation of teacher in-service programs.

H. PLACEMENT COMPONENT

--The details of this component have not been finalized as yet. However, it is intended that this component will develop information to assist school counselors in their guidance and placement responsibilities.

I. OCCUPATIONAL EDUCATION COORDINATING COUNCILS (OECC)

--The intent is to establish multi-county vocational planning and advisory councils to use the output of the MIS and coordinate vocational education placement and follow-up activities on a regional basis.

Specifically, the Multifarious, Student-Based, Management-Oriented Information System Project represents the initial effort to produce the first iteration of the system by developing components A, B, C, and F described above.

The author gratefully acknowledges the assistance of James F. Henry, Kathy J. Hoxsey, Mary Ann Sweeney, Kathy Trexler and the staff of Robert Davis Associates in the development and field-testing of the system. This study has also benefited from the many suggestions and criticisms offered by DAVTE staff members, especially colleagues in the Research and Development Section, and the Local Data Coordinators in the field-test schools. The errors, both of ommission and commission, which may be found in the study remain wholly the responsibility of the author.

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CHAPTER I

INTRODUCTION

As institutions offering secondary, post-secondary and adult education grow in size and complexity and as they attempt to adapt to rapidly changing environments, particularly funding sources, constraints and accountability, the needs of administrators at all levels to be able to receive, process, and utilize large volumes of information have become increasingly critical to the successful operation of their vocational education programs. The sheer volume of data which must be utilized in the typical institution is in itself overwhelming. One has only to think of the vast amounts of population data handled by the Bureau of the Census. Furthermore, technical specialization and departmentalization characteristics of contemporary large-scale governmental and non-profit institutions call for a degree of coordination and an exchange of information never before equalled. Events and operations within interrelated organizational units, as well as among interdependent operational units, occur so rapidly that many managers are no longer able to keep abreast of the course of events with a speed sufficient to comprehend and control them.

There is abundant evidence in the literature that existing methods and procedures for handling, managing and using information in contemporary large-scale enterprises are failing to keep up with the needs of public administrators and business managers.[1] As a result of this situation, there has emerged in recent years, the specialized study and development of systems for the transmission, processing and utilization of information.

It is the purpose of this chapter to examine the general concepts of information systems, and in so doing, establish the design criteria which were used in the development and evaluation of the information system for the Illinois Department of Adult, Vocational and Technical Education (IDAVTE).

Information and Information Systems

To execute any rationally conceived endeavor, the means and ends must be logically related. Information constitutes the essential link between a mean and an end. On the basis of information and a consideration of other relevant factors, such as organizational/divisional goals or statutory requirements, administrators formulate plans and make their decisions. Directives are then transmitted through organizational units to appropriate personnel charged with the responsibility to administer, direct, coordinate and control activities so that the stated ends can be accomplished. In the case of IDAVTE, the department approves educational plans and allocates the funds to carry out those plans. At each lower level, in this case the LEA, information is also used for similar types of activities relevant to their level of operation.

Information flowing through the organization is not synonymous with the data of the organization. A datum is a fact in isolation. Information is an aggregate of data organized, classified and interpreted so as to convey a definite meaning. Thus, information is meaningful data whereas data, as such, have no intrinsic meaning or significance.

Information is the concept of relating data to some specific purpose or objective. From this standpoint, "data processing" is a set of activities which begins the process of transforming data into information. This distinction between data and information must be stressed in information systems development. It focuses attention on the intended uses of data, rather than upon the data processing tools as such.

An information system constitutes a formal or rationally planned endeavor whereby people receive and transmit information. It is more than an automatic data processing system. As such, it may include automatic data processing as one aspect of the information-handling process, but it may also include documents, paperflow, procedures and microfilm systems for filing. It is essential to differentiate between an information system as such and the particular technology which, in a given time and place, is utilized as one feature of the system. This is important because there is a tendency to classify types of systems by technological characteristics, such as on-line, real-time and random access, rather than by the characteristics of the information systems.

In a large-scale organization, there is a hierarchy of personnel who make decisions, conduct operations and develop plans of various kinds. In this context, IDAVTE and the school systems can not only be viewed as separate organizations but, also, as integral parts of a higher level organizational unit for which an information system is required. An information system must not be conceived merely as a tool of management at the highest level of the organizational hierarchy,[2] in this case IDAVTE. If we view the organization as composed of top managers (IDAVTE), middle managers (regional superintendents and principals), supervisors (vocational directors), and operators (teachers); or if we define their various functions as policy planners, operations planners, operations controllers, etc., then a properly designed system will serve the informational needs of all these persons. It follows from this concept that the development of an information system should be focused not upon technology, but upon the informational needs of the system's users. Thus, the foundation for developing an information system is in the analysis of the need for information at all levels and for all functions in the organization.

Information systems can be classified by their degree of integration or the extent to which they are "total systems." This is related to the variety of functions that a particular system may be required to perform. As managers in government and educational institutions gained experience with computerized systems, their purposes tended to shift from using computers in a limited area, such as payroll preparation or inventory control, to broader applications by treating the total enterprise as a single organizational system, rather than in terms of arbitrarily separated administrative units.[3] As the goals of management change, the boundaries of systems change to include automation and integration of more functions with the net results that systems become subsystems of still larger systems. The dimensions of this change can be classified as follows: (1) laterally to incorporate different functions at the same organizational level; and (2) vertically to incorporate different levels of the organizational hierarchy.

Lateral Integration

Large-scale organizations have been composed traditionally of relatively independent and functionally differentiated areas such as personnel, accounting, production and research, or in the case of IDAVTE, Fiscal and Statistical Section, Program Approval and Evaluation Section, Occupational Consultants Section, Professional and Curriculum Development Section, etc. These functionally differentiated areas are linked together by formal and informal information networks. However, the integration of compartmentalized functions, which are usually assigned to subunits of the organization, such as departments or divisions, has always been a problem.[4] The phenomenon of identification with and loyalty to a department rather than to the organization as a whole has been discussed at length throughout management literature. A large portion of the energy and skill of management has been devoted to ensuring the smooth flow of information laterally across departmental lines.[5] As a direct result, the education of managers in industry and governmental organizations has followed the same lines as organizational departmentalization; that is, it has been fragmented. Thus, the various segments of the organization have acted as separate entities and not as a part of a unified system. The inadequacies of this compartmentalized and fragmented management technique are rapidly being realized as more and more organizations attempt to develop integrated management information systems.

As the size and complexity of organizations increase, management's familiarity with the operations of all parts of the organization no longer ensures successful and efficient overall functioning. The tasks of educational administrators are complicated by the fact that the individual must be concerned with a large variety of variables which affect the organization and decision-making processes in a non-linear fashion. As a result, J. W. Forrester concluded that ". . . in management, as in engineering, we can expect that the interconnections and interactions between compartments of the system will often be more important than the separate components themselves."[6]

Vertical Integration

The communication lines which make up an information system in an organization may occur laterally, as explained in the previous section, or vertically. Vertical integration implies the linking of different levels of the organizational hierarchy from the lowest level to the highest level. Three basic levels of organizational functions can be distinguished: (1) strategic planning, (2) management control and (3) operational control.[7] John Dearden defines each of these as follows:

1. Strategic planning, which consists of (a) determining corporate policies and objectives; (b) deciding on any changes in these policies and objectives; and (c) deciding on the resources to be devoted to attaining these objectives.

2. Management control, which consists of (a) dividing the strategic plans into logical subdivisions; (b) providing the funds to carry out the subdivisions of the plan; (c) assigning the responsibility for carrying out each of the subdivisions of the plan to some individual; and (d) following up to see that the assignment is being satisfactorily carried out.

3. Operational control, which consists of (a) determining the specific men, equipment, material and information necessary to accomplish the subdivision of the plan; (b) assigning these resources so that the plan can be carried out in the most efficient manner; and (c) comparing actual results with plans and taking corrective action where appropriate.[8]

The differentiation of these three levels of management functions indicates that an integrated system may include both real-time operations and non-real-time operations. Operational control, as well as some aspects of management control, can be automated either as an on-line, real-time process or as a batch process. Strategic planning, on the other hand, is rarely automated at all. Dr. Milton S. Holmen of the University of Southern California's Graduate School of Business Administration states that ". . . it has been proven that the number of middle management functions which can be computerized is 10% or less of such executive's work."[9] In another study conducted about the same time, 100 top managers of institutions, utilizing altogether more than 170 computers, reported without exception that they made no direct use of the computer for decision-making at the corporate or division level.[10]

To integrate vertically, if it is accepted that computer systems cannot make top-management decisions, is basically an attempt to provide the information necessary to aid top management in executing its decision-making responsibilities. This is done by lateral integration. Thus, IDAVTE management information system must concentrate on the aspect of lateral integration of system components in such a manner that vertical integration, decision-making information, is attained. This approach is consistent with the Department's requirement that the total management information system, when implemented, will include data on student follow-up, placement, program cost differential, teacher supply/demand, supply information (program completers) and labor market demand information (manpower requirements). In addition, the system must provide outputs to satisfy state and local reporting requirements, reimbursement processing and tools to aid all sections of IDAVTE in executing their responsibilities.

Although the status of information systems in educational organizations seems to be behind that of industry in both the lateral and vertical integration of systems, one can see a definite movement to rectify this situation. To obtain the kind of integration that IDAVTE seeks, it may require standardization of data items for all participating schools, but will not require standardization of the individual school's system.

System Uniqueness

The same hardware system or supportive software system can be used equally effectively by a variety of users. Such is not the case, however, with information systems. An information system is tailor-made to fit the needs, goals and requirements of a unique organization.[11] In the industrial realm one can speak of classes of computer applications such as payroll, accounting, inventory and production control or airline reservations. However, an examination of the details of these applications in similar areas shows many fundamental differences. The differences appear most dramatically in computer programs, paperflow, format and content of reports, construction of the data base, relationships among system components, and in the use of human beings as elements of the system.[12]

This concept of system uniqueness is recognized by the Western Interstate Commission for Higher Education (WICHE). Its goal is to design a management information system for higher educational institutions and states as one of its purposes:

> . . . to encourage the development of management information systems within higher education institutions which will, at the same time, be sufficiently individualized to serve the unique needs of the respective institutions and sufficiently compatible to allow valid inter-institutional data comparisons.[13]

In this vein of thought, it is necessary not only to fulfill the unique requirements of IDAVTE for an information system, but to also design the system at a level consistent with the concept of interstate data comparisons and compatability.

Soft Sciences Relationships

The most critical factor in the development of information systems is not the hardware but the human factor. Although information systems have profited from improvements in hardware components, such as core storage capacities, speed of operation and access, display devices and input/output devices, the technical limitations in these fields do not constitute major restraints on the design of information systems. Use of the computer as the basic component in large-scale information systems involves a multitude of so-called "soft" sciences -- human relations, management science, psychology, social psychology and sociology. These sciences and others are important in the design of information systems since they contribute to the understanding of the behavior of human beings as individuals and members of groups. Humans and their interactions with other humans are a critical variable at all stages of the system's development process.

There have been very few successful systems of any kind that have been forced down the throats of those who must make it operate. Hence, the three basic components to the successful design and implementation of the system include: (1) top management support and involvement from the inception of the system; (2) communication and cooperation with the individuals who must ultimately make the system function; and (3) providing meaningful and timely outputs. The significance of the human factor in the design of an information system is evident from the design concept of planned evolution.

Planned Evolution

Information systems are evolutionary in that they are designed and implemented in several iterations to perform information processing for an on-going enterprise. Perry E. Rosove views the development of an information system as:

> . . . evolving through a planned series of stages or phases each of which includes the addition of new tasks and functions which may have been conceived and regarded as feasible from the inception of the plan.[14]

He also states that it is:

> . . . possible that functions not conceived during the original planning may be added at a later date, but these should be integrated with the long-range plan.[15]

An information system at any point in its stages of development incorporates earlier phases; it does not replace them, although the same function may be performed by more efficient computer programs or better allocations of tasks among the machines and its users.

The term "evolution" is also appropriate for the design of information systems because information systems are viable only if they adapt to their environment. An information system must have the capacity to adapt to changing situations and the capacity to learn from experience. These capacities are provided by the human elements of the system who are in themselves adaptive and capable of learning. Modifications to the system are made through an on-going dialogue between system users at all levels of the organization and the designers. It is again the responsibility of top management to assure that communication lines always remain open and to assure the users that they have a voice in the design of their system.

Designing for planned evolution becomes even more important if one accepts the premise advanced by Russell L. Ackoff in an article titled, "Management Misinformation Systems."[16] He states that one of the common errors made by management information system designers is the assumption that managers know what information they need and want, and that the manager is aware of each type of decision he or she should make. This would tend to point out that if systems were not planned to have several iterations, the result would be the same, although haphazardly so.

The iterative, evolutionary process that should characterize the development of an information system relies heavily upon the flow of data among the design personnel and the developers working in the various phases of the different development cycles. Thus, it is imperative that feedback be continuous between the various iterations; i.e., from the production phase of the first iteration to the requirement phase of the second. There is a definite need for interaction among system designers, program designers, programmers and coders. This close working relationship between designers and implementers is referred to by Rosove as the "continuity of personnel" principle.[17] Rosove points out that ideally the same personnel should carry out the entire process of systems development.[18] Hence, the multiple iteration process is more easily managed if a sound concept of data management is instituted at the inception of the system.

CHAPTER II

REVIEW OF LITERATURE

Although the immediate concern was to develop the supply and demand components, a literature review was conducted so as to provide meaningful insight not only into the establishment of data bases for the supply and demand components, but more importantly, to ascertain how those components should interface with one another and to the total MIS. The literature was gathered from a variety of sources. A search was made of the Educational Research Information Center (ERIC) and the Abstracts of Research Materials in Vocational and Technical Education (ARM) publications. Additional literature was gathered from other sources, including IDAVTE staff.

Systems Rationale

Recent literature on the expanding role of State Departments of Education clearly indicates that State Departments will be expected to carry out a leadership position in effecting needed changes and improvements in education. This not only applies to education in general but to the expanding vocational-technical education programs within each state. This expanding role or concentration on occupational education is seen in federal legislation, particularly the Vocational Education Amendments of 1968.

This amendment made several changes to traditional vocational education policy. One of the most important of these was direction to state boards of vocational education that they could no longer allocate Federal vocational funds to local educational agencies on a uniform basis. The individual characteristics of districts in terms of needs, wealth and costs had to be considered in state systems of allocating Federal funds.[19] In essence, the state systems for allocating Federal Vocational Funds must reflect: (1) manpower needs, defined by U.S.O.E. regulations as job opportunities,[20] (2) vocational needs of the population, (3) relative ability of districts to pay, and (4) excess costs.

The above legislation and its criteria have given encouragement to many vocational education planners who have come to assume in recent years that manpower projections are an integral part of their function and that in conjunction with other criteria could better the performance of vocational education. It has been noted that vocational education reacts slowly to industrial change and that a large part of this slow reaction can be attributed to poor data.[21] This poor data is especially noticeable in two of the U.S.O.E. criteria for allocation of Federal Funds which are: (1) manpower needs, and (2) excess costs which is defined as the cost of vocational education programs in excess of the cost which may normally be attributed to the cost of education in non-vocational programs.[22]

Although meeting manpower needs has always been an objective of vocational education planners, states have encountered many difficulties in designing allocation systems which give due consideration to the manpower needs of their local education agencies. One source of these difficulties is that, traditionally, the production and handling of manpower data has been the responsibility of the Department of Labor and its affiliated agencies.[23]

One of the practical difficulties caused by the separation of manpower studies and vocational education is the problem of converting the Labor Department statistics, as published in the terminology of the Dictionary of Occupational Titles, to the classification system of the U. S. Office of Education. Accordingly, two analytical reports entitled Manpower and Job Information[24] and Program Management Systems and Techniques[25] note that the kinds of manpower data available to vocational education planners are generally of a gross nature and demand forecasts are typically for occupational categories too broad for use by educators in curriculum development or guidance.

Most states have had more difficulty with the excess cost criterion than with any of the other mandated criteria. Many experiments have been undertaken to develop procedures for determining the total cost of vocational education and methods to ascertain its excess cost. However, much of the necessary data have been impossible to obtain, mainly due to a lack of program accounting systems.[26]

The difficulties in meeting the above criteria have led many researchers to attempt to determine manpower needs and many projects to focus on the cost of educating for those needs.

MIS Visualization

Based on an interpretation of the current literature and a liberal citation from Manpower Forecasting for Vocational-Technical Education,[27] a management information system for vocational education planners should incorporate the following:

1. Supply and Demand Projections. Projections of employers requirements should be complemented by estimates of available supply within certain geographic regions of employment.
2. Classification Detail. The interface of supply and demand projections will require that data be collected in sufficient detail to match curriculum content with skill requirements of a given job or job cluster. This requirement assumes that such a match is, in fact, possible or meaningful; a subject often debated in the literature and in practical application.
3. Technology Predictions. Such predictions include basic industry mix changes and must be detailed enough to allow expert assessment of qualitative and quantitative changes in curriculum generated by productivity changes. Examples of satisfying this requirement can be found as national level manpower need forecasts in publications such as A Guide to State and Local Outlook Information[28] and on a local level in a report entitled Area Manpower Review[29] pertaining to the St. Louis, Missouri, SMSA.
4. Entry Rate and Follow-Up Studies. Such studies are needed on program output as an integral or supplemental subsystem of the vocational education planning system. Statistics are needed on the proportion of those completing a training program who actually enter the occupation for which they were trained.

High attrition rates may suggest a need for improved programs if employment opportunities do exist. The system must concentrate not only on those completing training programs but must also account for those not completing the program.

5. Unit Cost and/or Cost Differential Data. This type of data relating to training costs of each occupational category is needed as a part of the management information system. It is needed by all levels of decision makers so that alternative solutions to meeting demand in both the short and long range can be developed and evaluated. This data, along with data resulting from the supply/demand interface will make it possible to better estimate the consequences of each alternative developed and the degree to which each alternative will be responsive to the desired objectives of the system.
6. Government, Education, Industry/Business Relationships. The relationships between all parties having an input or as a user of the output is one of the most important aspects to the successful implementation and maintenance of a management information system for vocational education planners. The need for positive relationships between the above groups and group actions to support such a system is substantiated in all the literature reviewed on this subject.

Review of Existing Systems

Two systems that are attempting to integrate the various components of vocational education planning into "management information systems" were reviewed. Neither of these systems, however, was student-based.

The Occupational Training Information System (OTIS)[30] was developed by the Oklahoma State Department of Vocational and Technical Education and the Oklahoma Industrial Development and Park Department, in conjunction with the U. S. Department of Labor/Manpower Administration, Ozarks Regional Commission and the Research Foundation of Oklahoma State University. The OTIS system is a working model for vocational-technical education decision makers. Its purpose is to provide improved data for evaluating recommended changes in Oklahoma's State Plan of Vocational Education. Several of its unique attributes are as follows:

1. It views the system as a management information system with integrated subsystems.
2. It includes a technique for on-going self analysis geared to promote positive changes to its structure.
3. It is designed to function in yearly time cycles.
4. It recognizes and incorporates into all aspects of the system the importance of the sociopolitical environment.
5. It includes a subsystem relating disadvantaged workers to the labor market.

A regular collection of supply data from public and private vocational education institutions on questionnaire documents is keypunched for entry to the system. Two types of questionnaires are used; one designed to gather training program data from the teacher, and one to gather student background data from the student.

"Industrial coordinators" and personnel from the education system are used to gather employer demand information. A questionnaire is used for data collection and, if possible, is completed during a personal interview. The demand data elements include the SIC and DOT coding structures coded after the questionnaire is returned. Each employer is asked to project demand by occupation for the three upcoming years. Non-institutional supply sources (the unemployed and on-the-job trainees) are estimated from the records of the state employment security office.

In addition to matching manpower supply and demand to show adjusted demand, the system includes components for cost analysis, follow-up studies, underdeveloped human resources and sociopolitical involvements between different agencies with similar goals. The ultimate aim of the system, which is undergoing constant refinements, is to effect appropriate changes in the occupational training program mix so that training and labor market needs are met. The system is seen by manpower planners in Oklahoma not as a panacea to manpower planning but as a useful management tool whose components are designed and modified to fit Oklahoma's specific circumstances.[31]

The OTIS staff offered a critique of their own model as it stands in its current stage of development:

1. Not all jobs are included in the projections. This gap causes an understatement of demand.
2. The system yields no information on education-experience complementarity. This is a failing of all forecasting models and is based on a lack of research into alternative routes to different occupational levels.
3. Some individuals listed as available from non-institutional sources (in-plant training and unemployment security records) are not qualified for the jobs in their listed category.
4. There are some inconsistencies between regional and state occupational totals. Some occupations could not be identified at the regional level.

In addition, the OTIS system:

1. Covers the manufacturing sector quite well but treats the services and governmental sectors in a cursory manner.
2. Utilizes wage data to help explain inter-state migration, but inter-state wage differentials are not used to explain supply-demand adjustments in the Oklahoma labor markets.
3. The percent of supply which is to be filled from each supply source is based on the supply currently emanating from that source. This may not be economically sound.

Although many of the aspects of OTIS do not fit the needs of IDAVTE, a great deal was learned from reviewing the changes to the structure of the system as its comprehensiveness has been expanded.

The Pennsylvania System for vocational education planning is based on the study Vocational, Technical and Continuing Education in Pennsylvania - A Systems Approach to State-Local Program Planning.[32] This report describes and in part utilizes a fundamental set of procedures or criteria to:

a. Project the economic trends of Pennsylvania.
b. Fully define the "systems approach" to program planning.

c. Define the weaknesses in the Pennsylvania reporting system.

d. Recommend improvement to be made through legislation.

In addition, it details five special studies that were conducted pertaining to the two large cities, Philadelphia and Pittsburgh; special socioeconomic needs, a follow-up system of graduates, an employer survey and a survey of local vocational education administrators.

The Pennsylvania system utilizes optical scanning documents to capture supply data from both the students and the schools. Programs are coded utilizing the USOE classifications. No attempt is made to evaluate the quality of programs or to equate the output of one or more types of institutions. Supply is measured in terms of occupational education graduates, those that complete their training in less than a baccalaureate degree program. It is assumed that upon graduation, the graduate is available to enter the labor force in the occupation for which he was trained. The supply data does not include those already employed who receive training supplementary to their occupation, on-the-job trainees, or apprenticeship program outputs.

A Supply-Demand Model for Vocational Education Planners: Report No. 1[33] generated information on the occupational growth in Pennsylvania and its 47 labor market areas; made a detailed determination as to what occupations graduates by programs from the various training institutions entered; and, evaluated the supply and demand in terms of a computer-based systems approach. It also describes the development and use of the Instructional Program/Occupation Matrix for adjusting future occupational supply.

Demand data is projected using the BLS National change factors to state level distributions as described in Tomorrow's Manpower Needs. Annual withdrawal and growth rates for each of the 142 occupational categories in the system are estimated and applied to the BLS generated data to develop total demand. Annual needs are projected by straight-line projections.

The supply-demand interface is accomplished utilizing the same procedure as the OTIS system; that is, the classification cross-reference listing in Vocational Education and Occupations.

The system does include an analysis of the curriculum and capacity of existing vocational-technical programs. Employer surveys are used to determine the extent of employer training and the employer's use of vocationally educated personnel.

Systems Being Developed

Several other state agencies now have systems under consideration which may be developed into vocational education planning systems. Those states are as follows:

1. South Carolina - - The South Carolina Employment Security Commission has done a great deal of work in the area of determining occupational demand requirements.[34] The state is using a revision of the OES documents to survey employers. The BLS I/O Matrix concept and the procedures set forth in Tomorrow's Manpower Needs, prepared by the U. S. Department of Labor, Bureau of Labor Statistics, as a guide for using National manpower projections as a tool for developing State and area manpower projections, are then uti-

lized with the survey results to project area and industry demand projections by occupation. However, no major work is being done on developing occupational supply data.

2. Missouri - - Missouri has embarked on the development of a system for planning vocational education. Work is beginning on the demand projections and that state is collecting information on students entering public vocational educational programs. A beginning of a follow-up system is also being initiated but relates only to the status change of a student once he enters a program.
3. Kentucky - - This state is now in the process of revising the OES documents which will be implemented in phases in an attempt to project the demand for occupational working. They are being aided by one of the developers of the OTIS system in their efforts. The status of the Kentucky system is not known at this time but will be assessed in more detail in the near future.

Supply

The supply side of a student-based system is a matter of designing a highly efficient data collection system to capture data on students entering vocational-technical programs in public and private schools and in non-school situations such as apprentice programs. In addition, a method must be devised to determine the projected program completions in relation to those entering and those who may complete the program but are not interested in employment; It is recognized that data must be captured on students or trainees in:

- Public Secondary Vocational and Technical Schools
- Community Colleges
- Private Trade and Technical Schools
- Private Business Schools
- State Trade and Technical Schools
- MDTA Programs
- State Retraining Programs
- Two-Year Programs in Four-Year Schools
- Private Junior Colleges
- Apprenticeship Programs

Conceptualization of Supply Component

The supply side of IDAVTE's system should be characterized by a student-oriented data base. It is anticipated that optical scanning documents should be used to gather most of the data from the supply sources noted above. Although much work is required to formalize the procedures and the exact data elements to be collected, at least three main files are visualized in this subsystem. These files should be structured in such a way that they serve all aspects of the MIS.

1. Student-Based File - - The main file to be maintained for this subsystem is a file containing those individuals within the state who are enrolled in and intending to complete occupational training programs. This definition will be difficult to proceduralize, but it is necessary to the success of the system to eliminate those individuals enrolled in occupational programs who have no intention of entering the labor force in that occupation. The structure of the documents and file should be based on the objectives inherent in the original proposal. They are as follows:
   A. Ease of processing at the local level
   B. Elimination of redundancy
   C. Ease of processing at the state level
   D. Use of standard definitions of data items

In addition, every attempt should be made to design the supply side of the system in such a way that output can be produced and distributed back to the training institutions as quickly as possible to aid them in additional data collection and possibly in carrying out their administrative functions.

2. Code File - - An integral part of the supply system should be a code file consisting of several different data files in a standard format which are used primarily as auxiliary data for editing and reporting purposes. Examples of possible code sets within the code file may be:
   A. Training Institution Code Set - This file should contain the names of training facilities, the facilities available, contact names, addresses, possible programs offered, etc. This file could possibly serve other governmental agencies in registration and regulatory functions.
   B. Program Code Set - This file should contain the necessary data to edit program information supplied by students or schools. It could contain course data pertaining to individual programs, level of education, and should contain a facility for storing data pertaining to cost figures. The OE code structure should probably be used at least in the first phase of this system.
   C. Teacher Code Set - It may be desirable to include a file pertaining to the instructors of the program's courses. Data in such a file could possibly be structured to aid in the editing of data or subsequent auditing of reimbursement claims.
3. Historical File - - This file should contain those students who have completed various programs and have been determined to be in the labor force. It should be maintained by a automatic purge routine and be further maintained and utilized by the follow-up system. Information derived from this file could be used to determine future adjustments to the supply projections within the various training institutions.

Demand

Basically, there are four types of manpower projections. A brief description of past or current uses of each of the four types is given below:

1. Employer Surveys - - The two types of employer surveys principally used up to the past several years have been the "Area Skills Survey" and the "Training Needs Survey." The latter is simply a cut-down version of the first. The "Area Skills Survey" has been phased out as administered by the U. S. Employment Service, and "Training Needs Survey" is used only when quick, low cost estimates of requirements of a given occupation are needed, but is short range and fairly inaccurate in nature. This is because they take into account each company's immediate plans for expansion or production process changes, and place the responsibility for the quality of data on the respondents. A new survey, the "Occupational Employment Survey" designed by the U. S. Department of Labor, will be discussed below in relation to econometric techniques.
2. Extrapolation of Trends - - This type of estimate of future employment is based on the assumption that trends in the future will be similar to trends in the past. This technique is fast, efficient and economic, but is the least accurate of all methods.
3. Job Vacancy - Occupational Outlook Approach[35] - - When high degrees of accuracy in projecting employment for vocational education planning are not necessary, Medvin has proposed that this method, also known as the job vacancy/matrix, be used. It utilizes inputs from the Bureau of Labor Matrix analysis, examines employment service listings of job openings unfilled for 30 days or more, compares them to the total number of such openings (recent and unfilled for 30 days or more), and then considers the relationship between such data over time. This would reflect the persistence of a significant portion of unfilled openings. Using the number of hard-to-fill openings as the criterion, a listing is prepared in descending order showing the occupations with the most apparent shortages. This approach is highly questionable if used by itself in appraising vocational education program planning.[36]
4. Econometric Technique - - This technique is used in the annual manpower forecasts prepared by the Bureau of Labor Statistics. The result of this method is the BLS Industry/Occupation Matrix. In addition to changes in requirements as a result of growth or decline in occupational employment, estimates are made of those leaving the work force through withdrawal, death and retirement. These two, future need-growth and losses, are summed to provide an estimate of new openings for labor force entrants.

The greatest and overpowering disadvantage of the BLS I/O Matrix to regional or local planning of education is its inability to accurately forecast employment openings for other than very broad regions or areas. However, in order to utilize this accurate technique, the BLS is implementing, in 21 cooperating states, the new "Occupational Employment Survey." This survey captures present employment in various occupations by regions and subregion, and, utilizing the industry-occupation matrix research and techniques described in Tomorrow's Manpower Needs,[37] forecasts of manpower needs will be made on a less than state level.

Conceptualization of Demand Component

The methodology for projecting demand discussed below is based on careful consideration of the factors of accuracy, ease of employer response, flexibility overall cost and the desire to include in the system a built-in coordination between industry and education.

The occupational projections should be developed using the industry-occupation matrix approach. The matrix will be defined as a table showing the occupational composition or patterns of individual industries. The patterns represent the relative proportion of each occupation to total employment in each industry.

The use of the matrix approach will be based on the following premises:

A. The occupational composition of individual industries is distinctive. For example, the construction industry consists mainly of craft workers such as carpenters and bricklayers while employment in the health industry consists mainly of technicians, professionals, orderlies, etc.

B. The differences in the occupational composition between similar establishments in the same industry tend to be minimal.

C. The proportional distribution of the occupations comprising a given industry tend to change very slowly over time.

D. The employment level for a given industry is the primary determinant of the occupational levels within that industry.

There are other factors which should be considered but which are secondary in determining occupational patterns within a given industry. They include size of plant, volume of production, particular goods produced or services performed, worker skills, age of plant, wage rates and labor supply.

If the four basic premises are accepted, then it can be concluded that (1) the manpower requirements for a given industry reflect the composite staffing, or occupational patterns of establishments within that industry, and (2) that once the occupational patterns are determined for each industry, the occupational employment levels can be estimated for that industry given the industry employment level.

Employment projections for each industry should be estimated by utilizing historical data of industry employment levels. This data should be obtained from Employment Security reports. Care must be taken in this step to make sure that the base year is at least five years past and that due consideration be given to times greater than five years. The figures used should be average annual employment.

The first estimates of future employment in the various industries should be produced by utilizing the above historical industry employment levels in one of four least square regression models. The resultant projections should be analyzed and modified by labor analysts familiar with Illinois economy, industry trends, new and pending legislation, population developments and previous forecasts. In addition, the estimates should be reviewed by industrial organization representatives, governmental agencies and representatives of private industry for reasonableness and consistency.

The four regression models are as follows:

1. The relationship between State employment and time.
2. The relationship between the common logarithm of State employment and time.
3. The relationship between the ratio of State employment to National employment and time
4. The relationship between the common logarithm of State employment and the common logarithm of National employment.

Presented in the same order as those above, the models are expressed mathematically as follows:

1. $Se = a + b\,(t)$
2. $\log Se = a + b\,(t)$
3. $Se/Ne = a + b\,(t)$
4. $\log Se = a + b\,(\log Ne)$

where:

Se = State employment (annual averages)

Ne = National employment (annual averages)

a = Constant; intercept; the value of the dependent variable when the independent variable is zero

t = time

The development of occupational projections for each industry should be accomplished by gathering data from firms utilizing OES type questionnaires, with the DOT coding structure. The data asked for should essentially be current employment plus job vacancy in each occupational category. The result should be current total demand. The data should be used to build an industry occupation matrix on regional and state levels. After the data are expanded to the universe, if samples are used, ratios should be developed reflecting the relative proportion of the industry employment represented by each occupation. These ratios should be developed as follows:

A. The sample employment in each industry will be expanded to the universe in such a way to minimize bias due to differences in responses between industries and employing units of various sizes.

B. The universe employment for each size class in each industry will be divided by the corresponding sample employment to yield inflation factors.

C. The inflation factors will be applied to the occupational data in each size class.

D. The size-class data will be aggregated for each occupation in each industry and these aggregates divided by total industry employment will yield the occupational pattern or relative proportion of employment in each job to the total employment in each industry.

These occupational patterns or ratios should then be utilized in conjunction with the industry employment projections to project employment by occupation for each industry. The difference between the level of employment in a given occupation in the base and terminal years (of the projection) should yield the number of workers needed in that occupation for expansion or growth.

The projection of replacement needs by occupation or the number needed to replace existing workers who withdraw from the work force because of death or retirement must be calculated and added to expansion needs. The result should be the future total labor requirements or the demand. There are several alternative methods for estimating replacement needs. These are presented in the U. S. guidebook Tomorrow's Manpower Needs.[38] Each method has some limitive factors. At this point in the model, the demand for future employment by occupation within region has been projected. The projections should be represented in DOT classifications.

Supply and Demand Projections and Their Interface

The elements of supply and demand and their interface to provide a meaningful tool for vocational-technical education program decisions has been dealt with in the literature in laymen's terms as well as esoteric terminology. The latter by its very nature is not understood! However, there have been many serious studies and reports of those studies which deal with the practical application of proven methods of projecting manpower supply and demand at both the National and Local levels. One of these studies, Vocational Education Planning: Manpower Priorities and Dollars,[39] gives a very excellent review of all the pertinent literature on the subject of the demand side of the interface as well as the labor force sources of supply which affect all demand projections.

It should be noted that in most methods currently employed in projecting demand even on a local level, the projections are in the terms of the Dictionary of Occupational Titles (DOT)[40] or the Standard Industrial Classification (SIC).[41] The problem of comparing this classification of demand to the output of educational institutions which normally use the Office of Education coding system (OE) is acute, although some systems are utilizing a government publication, Vocational Education and Occupations,[42] to accomplish this task.

The supply/demand interface should utilize the Vocational Education and Occupations cross-reference list. Although this system of interface leaves much to be desired, it is one of the best alternatives available at this time. If any major process breakthrough occurs relative to this cross-reference, organized procedures will need to be developed for the Vocational Education and Occupations, and conversion can then be made in an efficient manner at that time and thus remain consistent with a standardized system.

CHAPTER III

PROCEDURES

This chapter is devoted to a narrative description of DAVTE's management information system. The system is designed to support the operation of a computer-based model which has the capacity to generate a profile of the output of the vocational education programs operating within the State of Illinois. Likewise, the system can produce a comparison matrix between the supply profile and the projection of manpower requirements within the state.

The system is structured to be the central data processing activity for DAVTE. It operates basically on a semi-annual cycle compatible with the local school registration period. The supply-demand matching function is performed annually in the December - January period to allow for inclusion of the fall enrollment figures in the supply profile.

Apart from the supply-demand comparison, the system has been structured to support a number of planning and/or administrative functions. These functions are as follows:

1. Consolidation and approval of the annual plans submitted by local education agencies.
2. Tabulation and reconciliation of unduplicated enrollment in vocational programs and courses.
3. Calculation of applicable reimbursement for local education agencies based on a summation of student credit hours generated in vocational courses.
4. Support to the vocational education planning process through the development and comparison of supply and projected demand profiles.
5. Accumulation of data on vocational education teachers to support DAVTE's formal structure of pre-service and in-service training activities.
6. Accumulation of historical data on students, teachers, and programs to be used for a variety of longitudinal studies.
7. Assimilation of data required on students in order to initiate follow-up studies.
8. Tabulation of certain data for use in preparing the required end-of-year federal reports.

To minimize the problems that might surface with respect to the implementation of the system on a state-wide basis, particularly in a state as large and as diverse as Illinois, a number of design criteria were established and adhered to throughout the development of the system. These criteria included as follows:

1. The acquisition of necessary data on students, teachers and programs from the LEA's were closely coordinated with the annual planning and reimbursement cycle. This helped to insure timelines and accuracy of input data and provided the incentive necessary for full participation by all local units.
2. Maximum use was made of feedback of information to the LEA's from the MIS data files. The use of turn-around records minimized the local effort for data preparation and provided local administration with better information on vocational education activities at their schools.
3. Data input requirements were tailored so that no repetitive data was entered. This helped to reduce the data preparation work load at the local education agency level.
4. Very tight data input controls were designed to help assure the accuracy of the management information derived and to assist the LEA's in obtaining the correct amount of reimbursement.

In any state government agency, policies may change rapidly in response to political and technical pressures. Hence, the management information system was designed to be flexible. To the maximum practical extent, the system was not only made transparent to the Department's prevailing policies, but also incorporated in those aspects necessary to handle major policy revisions in the future without necessitating extensive revision of the operational structure of the system.

The system operates under a standard flow of data gathered via manual procedures and manipulated via automated procedures producing the necessary management information and other required outputs. As such, the system is comprised of many subsystems. The balance of this chapter is devoted to a brief description of the contents, procedures, and output of each subsystem.

Control Subsystems

To effectively control data flowing into the system, monitor the actions transpiring within the system, and control the quality of information being generated by the system, DAVTE's management information system employs a number of master control files for check, balance and aggregation routines. The county codefile described in Table 1 is the most notable of the aggregation routines. Each school district in the State of Illinois can be uniquely identified within a particular county. Since data is stored by attendance center within a particular district and given that the first four digits of the attendance center number are identical for all buildings within the school district in question, it is a simple process to compile the data from all attendance centers into a total district aggregation. Furthermore, since each school district is identified as being located in a particular county, a second level aggregation produces a county composite of all school districts within the county.

TABLE 1

COUNTY CODEFILE

Field	Length	Data Descriptor	Field	Length	Data Descriptor
001	3N	County Code Number	010	3N	Administrative Region Code
002	15AN	County Name	003	1N	SMSA Code
012	20AN	1st Line Address	009	25AN	SMSA Name
013	20AN	2nd Line Address	005	2N	Manpower Code (Old)
014	25AN	City, State, Zip Code	008	2N	Manpower Code (New)
011	30AN	ESRS Name	006	1N	Other Planning Code
004	1N	AVTE Planning Region Code	007	1N	Other Planning Code

Using the different coding structures defined in Table 1, reports can be produced in accordance with several different regional structures that prevail within the State of Illinois. Field 004 defines regional planning groups for vocational education, whereas field 010 segregates the state into seven State Office of Education administrative regions, as shown in Figure 1. Field 003 is used to identify whether or not a county is within a Standard Metropolitan Statistical Area (SMSA) per the distribution shown in Figure 2.

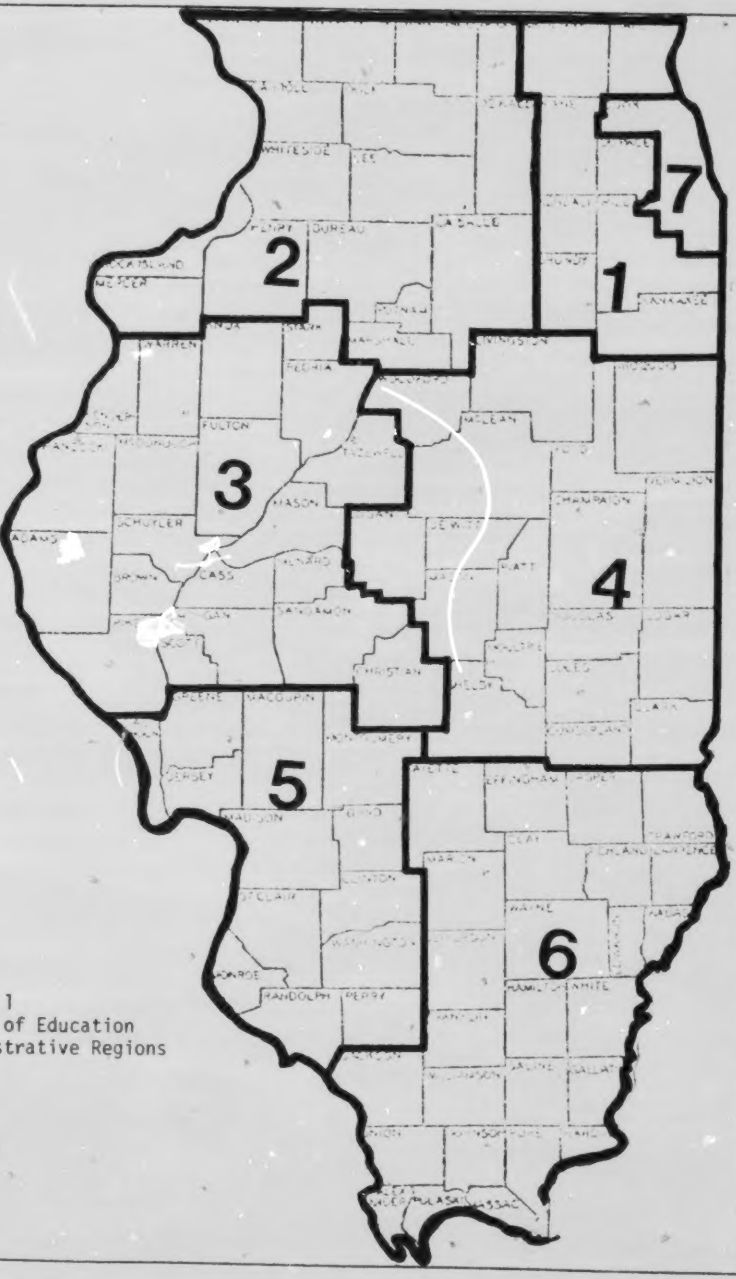

Figure 1
Office of Education
Administrative Regions

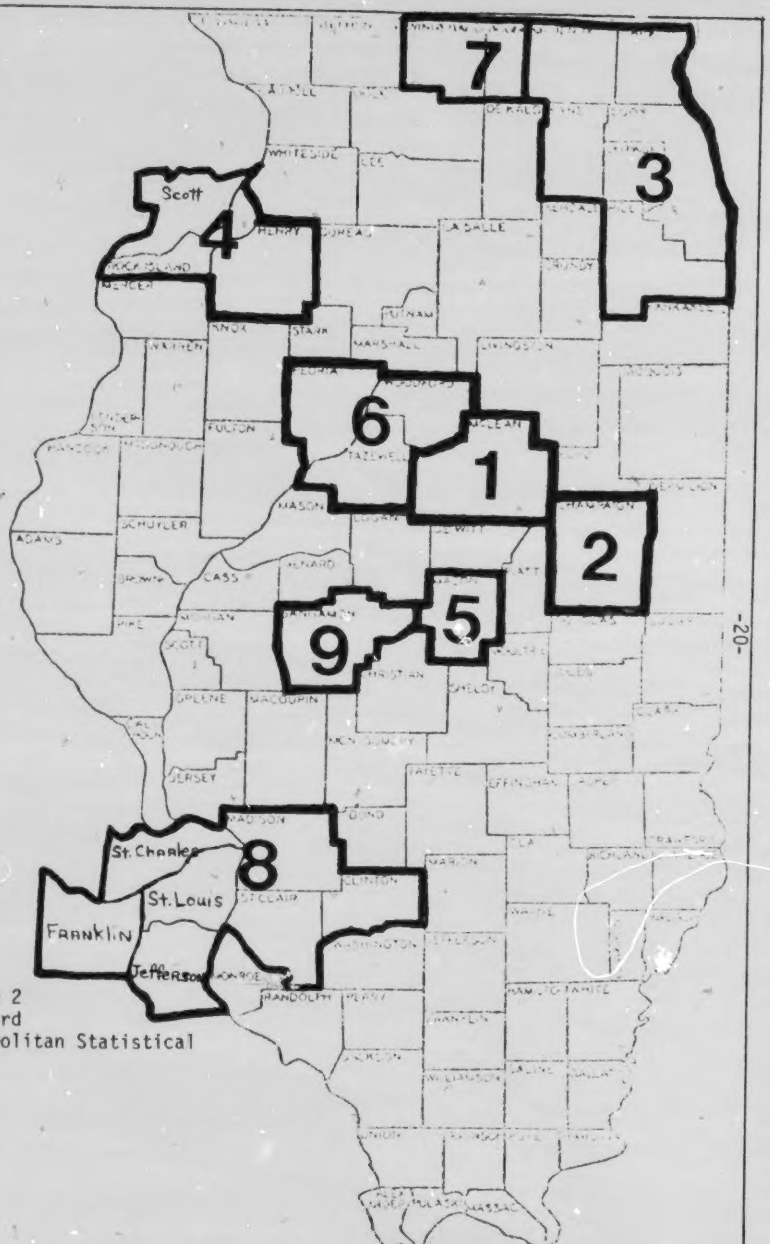
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Figure 2
Standard
Metropolitan Statistical
Areas

Since one emphasis of the study was to produce manpower projections on a regional basis, provisions were incorporated into the county codefile to facilitate multi-county aggregations of manpower data. Likewise, due to the impact political and social constraints have on the regional structure for manpower projections, fields 005 and 008 were both defined to contain manpower codes. This allows the MIS to produce manpower information under two different multi-county structures as defined in Figures 3 and 4. Although fields 006 and 007 are defined as integral positions in the codefile, the fields are unassigned and designated for future utilization.

The school file contains four fixed length variable record formats of which two of the records are a part of the control system. The attendance center record enumerated in Table 2 contains control data that is school building specific. Fields 001-010 and 037 contain data used for communication and identification purposes. The school year basis in field 016 is encoded as either semester, quarter or full-year, while field 011, type of school, is defined as either elementary, junior high, secondary or area vocational center. The data in field 038 serves as the basis for converting the number of part-time teachers in the attendance center to a corresponding number of full-time equivalency teachers.

TABLE 2

SCHOOL FILE -- ATTENDANCE CENTER RECORD

Field	Length	Data Descriptor	Field	Length	Data Descriptor
001	6N	Attendance Center Number	017	3N	Total Directors In Building
003	6N	Administrative Center Number	018	2N	Total Part-Time Directors (Secondary)
004	4AN	School District Number	019	2N	Total Full-Time Directors (Secondary)
005	3N	County Number	020	2N	Total Part-Time Directors (Adult)
002	25AN	Attendance Center Name	021	2N	Total Full-Time Directors (Adult)
006	24AN	Attendance Center Contact Person	022	3N	Total Supervisors in Building
007	20AN	First Line Address	023	2N	Total Part-Time Supervisors (Secondary)
008	20AN	Second Line Address	024	2N	Total Full-Time Supervisors (Secondary)
009	20AN	City - State	025	2N	Total Part-Time Supervisors (Adult)
010	5N	Zip Code	026	2N	Total Full-Time Supervisors (Adult)
037	10N	Telephone Number	027	3N	Total Guidance Staff in Building
016	1N	School Year Basis	028	2N	Total Part-Time "Guidance" (Secondary)
011	1N	Type of School	029	2N	Total Full-Time "Guidance" (Secondary)
038	4N	FTE Equals #Minutes/Week	030	2N	Total Part-Time "Guidance" (Adult)
039	10N	Reimbursement Paid (TY)	031	2N	Total Full-Time "Guidance" (Adult)
040	10N	Reimbursement Paid (TY-1)	032	3N	Total "Other" Staff in Building
041	10N	Reimbursement Paid (TY-2)	033	2N	Total Part-Time "Other" (Secondary)
012	4N	Student Enrollment (TY)	034	2N	Total Full-Time "Other" (Secondary)
013	4N	Student Enrollment (TY-1)	035	2N	Total Part-Time "Other" (Adult)
014	4N	Student Enrollment (TY-2)	036	2N	Total Full-Time "Other" (Adult)
015	4N	Student Enrollment (TY-3)			

Since local education agencies are reimbursed for vocational program offerings at three separate times during each school year, field 039 is used as an accumulator of reimbursement paid to the attendance center during the school year, whereas fields 040 and 041 contain total reimbursement paid to the attendance center last year and two years ago, respectively.

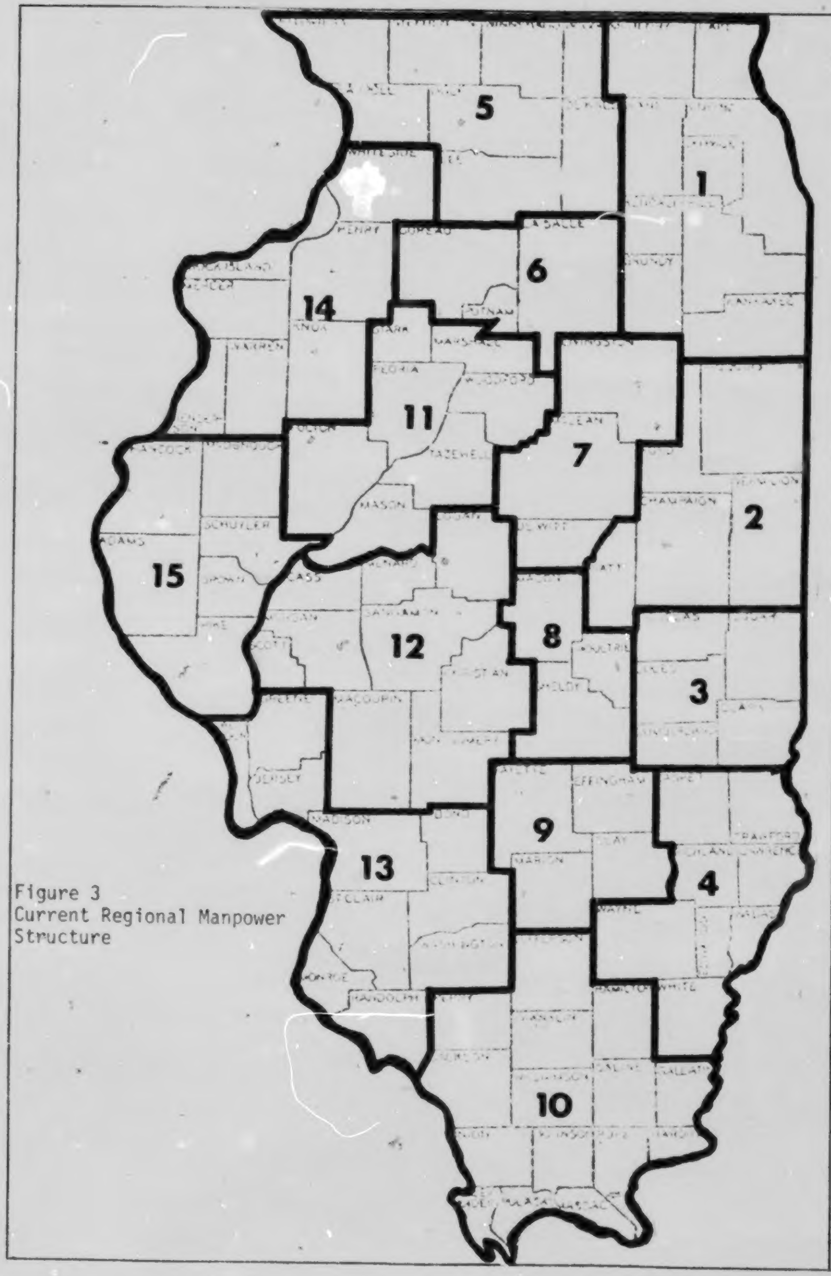
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Figure 3
Current Regional Manpower Structure

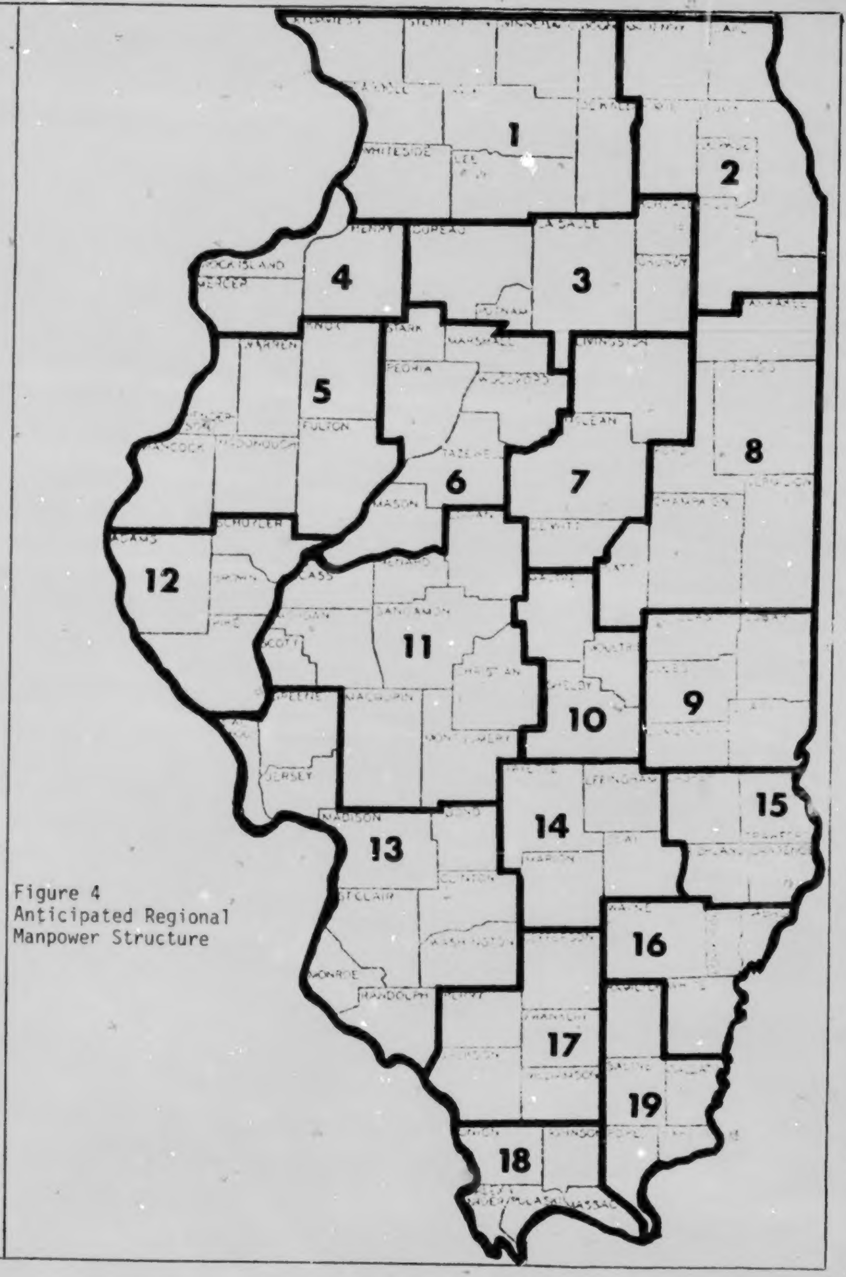
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Figure 4
Anticipated Regional Manpower Structure

Likewise, local education agencies report their vocational education student enrollments to the state office twice a year. If vocational courses are taught in the summer, these enrollments are reported simultaneously with the fall enrollments. Field 012 is used as an accumulator of enrollment throughout the school year, while fields 013 through 015 are used to store total enrollment figures for each of the previous three years.

Since vocational administrative staff statistics are an important part of the end-of-year report the SEA must submit to USOE, provisions were designed into the attendance center record to store information on the following categories of administrative staff:

1. Vocational Directors -- fields 017 through 021
2. Vocational Supervisors -- fields 022 through 026
3. Vocational Guidance Personnel -- fields 027 through 031
4. Other Vocational Administrators -- fields 032 through 036.

The data storage pattern for each of the four categories is identical. The total number of individuals included in the category is stored in the first field. The remaining four fields represent a breakout of the total according to the number devoted primarily to: (1) full-time work at the secondary/post-secondary level; (2) part-time work at the secondary/post-secondary level; (3) full-time work at the adult level; and (4) part-time work at the adult level.

The second control record of the school file is the administrative center record defined in Table 3.

TABLE 3

SCHOOL FILE - ADMINISTRATIVE CENTER RECORD

Field	Length	Data Descriptor	Field	Length	Data Descriptor
001	6N	Administrative Center Number	013	2N	Total Full-Time Directors (Secondary)
003	4AN	School District Number	014	2N	Total Part-Time Directors (Adult)
004	3N	County Number	015	2N	Total Full-Time Directors (Adult)
002	25AN	Administrative Center Name	016	3N	Total Supervisors in District
005	24AN	District Superintendent's Name	017	2N	Total Part-Time Supervisors (Secondary)
006	20AN	First Line Address	018	2N	Total Full-Time Supervisors (Secondary)
007	20AN	Second Line Address	019	2N	Total Part-Time Supervisors (Adult)
008	20AN	City - State	020	2N	Total Full-Time Supervisors (Adult)
009	5N	Zip Code	021	3N	Total District Guidance Staff
031	10N	Telephone Number	022	2N	Total Part-Time "Guidance" (Secondary)
032	6N	Relative Ability to Pay Factor	023	2N	Total Full-Time "Guidance" (Secondary)
010	1A	Type of School District	024	2N	Total Part-Time "Guidance" (Adult)
033	10N	Reimbursement Paid (TY)	025	2N	Total Full-Time "Guidance" (Adult)
034	10N	Reimbursement Paid (TY-1)	026	3N	Total "Other" Staff in District
035	10N	Reimbursement Paid (TY-2)	027	2N	Total Part-Time "Others" (Secondary)
011	3N	Total Directors in District	028	2N	Total Full-Time "Others" (Secondary)
012	2N	Total Part-Time Directors - (Secondary)	029	2N	Total Part-Time "Others" (Adult)
			030	2N	Total Full-Time "Others" (Adult)

The structure of the administrative center record is very similar to that of the attendance center record; however, the data stored in the record is school district specific rather than school building specific. Fields 001 through 009 and 031 contain descriptive data used for communication and identification purposes. The relative ability to pay factor, stored in field 032, is a pre-assigned coefficient used to adjust the percentage of vocational reimbursement paid to a school district. The value of the coefficient is determined on the basis of the relative wealth of the school district.

Field 010, type of school district, is coded as one of the following:

1. Community
2. Community Consolidated
3. Charter
4. Common
5. Consolidated
6. Community Unit
7. Non-High
8. Protectorate
9. Township
10. Old Type
11. Membership in NCACSS.

The reimbursement and staff information stored in the administrative center record is of the same type and description as that stored in the attendance center record except that the figures represent totals for the school district in its entirety.

The Area Vocational Center Codefile described in Table 4 is used primarily to determine when a vocational student's record should be expanded to contain an extra character trailing the student's identification number so as to uniquely identify the record with an area vocational center and thus allow duplicate records for the student on the system. System's design technology dictates that no duplicate records of any type be incorporated into the overall design structure of a management information system. However, in Illinois as in many other states, vocational students are allowed to pursue a planned sequence of vocational courses

TABLE 4

AREA VOCATIONAL CENTER CODEFILE

Field	Length	Data Descriptor	Field	Length	Data Descriptor
001	6N	AVC School Number	004	6N	Administrative District Number
002	36N	AVC Name	005	1N	Type of Control
003	24AN	Director's Name	006	2N	Number of Participating Districts

in their home high school while simultaneously being transported to an area vocational center to participate in more specialized vocational training courses. Since the funding procedure in Illinois necessitates that each student be uniquely identified with both the home high school and the area vocational center, it is necessary to build two identical records for such students. Hence, the Area Vocational Center Codefile is used as the basis for differentiating when duplicate records should and should not be allowed on the system.

This codefile is also used to identify the various area vocational center structure formats employed within the state. Field 001 identifies a unique six digit school number assigned to each AVC which allows the system to produce composite reports for all area vocational centers or any subset therein. Additional descriptive data for communication and identification functions are stored in fields 002 and 003.

The administrative district number in field 004 identifies the local education agency that has fiscal and administrative responsibility for the operation of the AVC while field 005, type of control, indicates whether the local education agency is that of a school district or the Office of the Superintendent of the Educational Service Region (somewhat similar to the concept of county's superintendents). The last field, 006, contains data on the number of public, private and parochial educational institutions participating in the vocational programs offered by the area vocational center.

The Non-Public Institution file illustrated in Table 5 is also a part of the control subsystem of DAVTE's MIS. Fields 001, 010, and 003 through 008 contain communication and identification data for the same purposes as described for the two records of the school file. The county number in field 009 identifies which Illinois county the institution is located in and provides the basis for aggregating non-public enrollments through the same hierarchial structure as public enrollments can be aggregated. Field 002 identifies the institution as one of the following types:

TABLE 5

NON-PUBLIC INSTITUTION FILE

Field	Length	Data Descriptor	Field	Length	Data Descriptor
001	3N	Institution Number	008	24AN	Contact Person
003	25AN	Name of Institution	009	3N	County Number
004	20AN	First Line Address	010	10N	Phone Number
005	20AN	Second Line Address	002	2N	Type of Institution
006	20AN	City-State	011	1N	Planning Output Desired
007	5N	Zip Code			

1. Barber
2. Cosmetology
3. Driver Training-Commercial

4. Mortuary Science
5. Pilot Flight & Ground Training
6. Truck Driving-Occupational Training
7. Business
8. Trade
9. Technical
10. Art
11. Trade and Technical
12. Health Occupations.

The last field, 011, is an indicator of whether are not the non-public institution in question desires a composite summary of the non-public institution enrollees in their region of the state.

It is a common practice of the MIS to return data, if desired, to each institution and/or agency that submits data for inclusion in the system. The actual data collected from non-public institutions are described under the non-public supply file in subsequent text of this chapter.

The balance of the control subsystem is devoted to the vocational programs and courses approved by the State Office of Education as being eligible for vocational reimbursement if offered in local school districts. As illustrated in Table 6, the Program File contains descriptive codes along with an array of

TABLE 6

PROGRAM FILE

Field	Length	Data Descriptor
001	3N	MIS Program Number
002	6N	Program OE Number
003	36AN	Program Title
004	1N	Type of Program
005	1A	Limited to AVC
041	2N	Manpower Cluster
042	1N	Vocational or Orientation
043	1N	Program Cluster
022	1N	Active Code
023	2N	Number Courses Required
006	1A	TY State Funding Priority
007	1A	TY Region 1 Override
008	1A	TY Region 2 Override
009	1A	TY Region 3 Override
010	1A	TY Region 4 Override
011	1A	TY Region 5 Override
012	1A	TY Region 6 Override
013	1A	TY Region 7 Override
014	1A	TY Region 8 Override
015	1A	TY Region 9 Override
016	1A	TY Region 10 Override
017	1A	TY Region 11 Override
018	1A	TY Region 12 Override
019	1A	TY Region 13 Override
020	1A	TY Region 14 Override
021	1A	TY Region 15 Override
108	1A	TY Region 16 Override
109	1A	TY Region 17 Override
110	1A	TY Region 18 Override
111	1A	TY Region 19 Override
025	1A	NY State Funding Priority
026	1A	NY Region 1 Override
027	1A	NY Region 2 Override
028	1A	NY Region 3 Override
029	1A	NY Region 4 Override
030	1A	NY Region 5 Override
031	1A	NY Region 6 Override
032	1A	NY Region 7 Override
033	1A	NY Region 8 Override
034	1A	NY Region 9 Override
035	1A	NY Region 10 Override
036	1A	NY Region 11 Override
037	1A	NY Region 12 Override
038	1A	NY Region 13 Override
039	1A	NY Region 14 Override
040	1A	NY Region 15 Override
113	1A	NY Region 16 Override
114	1A	NY Region 17 Override
115	1A	NY Region 18 Override
116	1A	NY Region 19 Override

funding priorities. For each OE instructional program uniquely identified by four or less digits of specificity in the Standard Terminology For Curriculum and Instruction In Local and State School Systems (i.e., NCES Handbook VI), a three-digit MIS Program number was assigned for storage in field 001 of the Program File. Since LEA administrators experience a considerable amount of confusion in the interpretation and use of OE code numbers, the MIS 3-digit program number was substituted for communication and correspondence functions between the MIS and participating school districts. However, since communication between the SEA and USOE utilizes the OE codes, the corresponding OE program number is stored in field 002 of the file thereby enabling programs to be identified by either coding structure.

The title of the program as listed in Handbook VI is stored in field 003 while the type of program, field 004, is coded as one of the following:

1. Regular
2. Exemplary (Part D)
3. Consumer and Homemaking (Part F)
4. Cooperative (Part G)
5. Work Study (Part H)
6. MDTA or CETA
7. Adult (Preparatory)
8. Adult (Supplemental)
9. Adult (Apprenticeship).

Field 005 indicates whether or not the vocational program in question is approved to be offered only at an area vocational center. Likewise, the level of training offered by the program is classified in field 042 as either orientation or vocational skill training whereas the program cluster code in field 043 permits grouping the individual programs into the following cluster areas:

1. Applied Biological and Agricultural Occupations
2. Business, Marketing and Management Occupations
3. Health Occupations
4. Industrial Oriented Occupations
5. Personal and Public Service Occupations.

Based on labor market information and manpower demand, several of the OE instructional programs enumerated in Handbook VI are inappropriate for offering within the State of Illinois. As such, field 022 allows for the status of each program to be identified as follows:

1. Approved program and is currently an active training program
2. Program has been approved to be activated as a training program next year

3. Program has been approved to be discontinued as an active training program next year
4. Program is currently an inactive training program within the state.

If the program is classified as active, field 023 allows the MIS to require that a specified number of vocational courses be offered before the program is approved as a reimbursable vocational program.

Appendix A contains a listing of the vocational programs approved as active training programs in the State of Illinois during 1975-76. In addition to the OE code number, program title and MIS program number given for each entry in the listing, two additional pieces of data are also recorded, namely, manpower cluster number and funding priority. The manpower cluster number, field 041 in Table 6, is used to cluster vocational training programs on the basis of skills imparted to the students as correlated to the skills required for entry into the labor market in a particular occupation or family of highly related occupations. The scheme employed for clustering the vocational training programs was to retain program uniqueness throughout the second digit past the decimal in the Handbook VI coding structure.

The funding priority listed for each entry in Appendix A is controlled by two variables, occupational manpower demand and the differential cost of the program. Actually, the priority represents the average funding priority based on the priorities of cost differential and manpower requirements. The four levels of funding priorities are as follows:

1. Priority A -- Highest level of funding
2. Priority B -- Average level of funding
3. Priority C -- Lowest level of funding
4. Priority D -- Program is approved to be offered but no vocational funding is provided.

Currently the funding priority for each program is a statewide funding level. As such, the current year's statewide funding level is stored in field 006 of the Program File.

Since the MIS must be capable of supporting DAVTE's administrative requirements for the on-going school year while simultaneously processing the planning requirements for the forthcoming school year, the system has been designed to concurrently store and process certain data as two separate years if the data is subject to change from one year to the next. The statewide funding level for the forthcoming school year is stored in field 025. Note that "TY" and "NY" are used to indicate this year (i.e., current school year) and next year (i.e., forthcoming school year), respectively.

In a state as large and diverse as Illinois, future policy directions may have implications for differential funding on a regional basis. Since the funding priority is derived from consideration of the manpower demand and program cost differential, regional funding must follow the regional structure set forth for the collection of either manpower or cost data. Cost data can be uniquely identified with a school district, however, an aggregate of counties is the smallest regional structure at which manpower demand data can be uniquely identified (See Figure 4). Hence, the nineteen manpower planning regions in Illinois were selected as the regional structure for differential funding provisions in the MIS. Fields 007 through 021 and 108 through 111 can be used to store regional funding priority overrides for the current year. If a regional funding priority is not stored in any one of the aforereferenced fields, then the system automatically selects the statewide priority as the funding priority for the region in question. Regional funding priority overrides for the forthcoming year encompass fields 026 through 040 and 113 through 116.

Data on vocational courses are stored in the Course Codefile described in Table 7. As with vocational programs, the three-digit number specified in field 001 was assigned to each vocational course for the purpose of identification and communication with local school districts. The short and long course titles defined in fields 002 and 003 were incorporated into the codefile for the same purpose. In an attempt to encourage the adoption and utilization of standard course titles at the local district level, a document entitled MIS Course Numbers and Descriptions was provided to each participating school district. The text of this document is reproduced as Appendix B.

TABLE 7

COURSE CODEFILE

Field	Length	Data Descriptor
001	3N	MIS Course Number
002	15AN	Abbreviated Course Name
003	30AN	Full Course Name
020	1N	Grade Level
021	1N	Type of Course

Although several districts utilized the document in the manner that it was intended, the overall acceptance and use of the document did not meet the needs of the system. While some districts voiced objections over the limited number of courses defined in the document, other districts stated that the document contained too many course descriptions. To resolve this problem, additional courses were identified and merged into the original listing of courses (See Appendix C); however, detailed course descriptions were replaced by a grade level indicator and type of course identifier.

The grade level indicator, field 020 of the Course Codefile, not only provides descriptive information on the course, but also provides a means of monitoring reimbursement calculations for compliance with prescribed standards of course participation (e.g., system could detect when an adult taking a grade level 9 course was claimed for reimbursement). The grade level indicators were defined as follows:

1. 9th or 10th grade only
2. 11th or 12th grade only
3. 9th through 12th grade only
4. 11th through 14th grade only

5. 13th or 14th only
6. Adult non-credit
7. Adult non-credit and 11th through 14th grade only
8. Adult non-credit and 13th or 14th grade only.

Field 021, the type of course, was defined to encompass the following:

1. Occupational Orientation
2. Vocational Skill Training
3. Adult - Preparatory
4. Adult - Supplemental
5. Adult - Apprenticeship
6. Cooperative Education.

Additional course information essential for operation of the control subsystem was defined apart from the Course Codefile because certain data elements had different values when the course was offered under different programs. In this respect, the course data became program specific and was included in the program file utilizing a course subrecord file structure. The subrecords, under program control, are limited to a maximum of 100 per program record. Although the subrecords are controlled by the combination course and program number, the subrecords are maintained in a course number order with each subrecord containing the data enumerated in Table 8.

The MIS course number specified in field 060 is the same as was described for the Course Codefile. Likewise, the structure and function of a regional override and its relationship to the statewide funding priority are the same as described for the Program File. However, a numeric priority is assigned to courses, whereas an alpha code is assigned programs. The course funding priority is not determined from manpower needs and cost; rather, it is assigned on the basis of the relevancy of the course to the program according to the following specifications:

Priority #1 -- Skill training course required for occupational competency

Priority #2 -- Related course required for occupational competency

Priority #3 -- Orientation course designed primarily as a preparation/introduction for subsequent occupational training courses; typically offered in 9th and 10th grade

Priority #4 -- Occupational information course; typically restricted to grades K through 8.

As with the Program File, the course subrecord contains statewide funding indicators and regional overrides for both the current year and the forthcoming year.

The program validation code, field 077 of the course subrecord, can be used to specify that the course in question is a required offering for the vocational programs to be approved for reimbursement. Likewise, field 078 identifies whether or not a sequence of courses is required for the vocational program to be approved for reimbursement.

TABLE 8

COURSE SUBRECORD OF PROGRAM FILE

Field	Length	Data Descriptor	Field	Length	Data Descriptor
060	3N	MIS Course Number	084	1A	Sequence #3 Validation
061	1N	TY State Funding Level	085	1N	Sequence #4
062	1N	TY Region 1 Override	086	1A	Sequence #4 Validation
063	1N	TY Region 2 Override	087	1N	Sequence #5
064	1N	TY Region 3 Override	088	1A	Sequence #5 Validation
065	1N	TY Region 4 Override	089	1N	Sequence #6
066	1N	TY Region 5 Override	090	1A	Sequence #6 Validation
067	1N	TY Region 6 Override	091	1N	NY State Funding Level
068	1N	TY Region 7 Override	092	1N	NY Region 1 Override
069	1N	TY Region 8 Override	093	1N	NY Region 2 Override
070	1N	TY Region 9 Override	094	1N	NY Region 3 Override
071	1N	TY Region 10 Override	095	1N	NY Region 4 Override
072	1N	TY Region 11 Override	096	1N	NY Region 5 Override
073	1N	TY Region 12 Override	097	1N	NY Region 6 Override
074	1N	TY Region 13 Override	098	1N	NY Region 7 Override
075	1N	TY Region 14 Override	099	1N	NY Region 8 Override
076	1N	TY Region 15 Override	100	1N	NY Region 9 Override
118	1N	TY Region 16 Override	101	1N	NY Region 10 Override
119	1N	TY Region 17 Override	102	1N	NY Region 11 Override
120	1N	TY Region 18 Override	103	1N	NY Region 12 Override
121	1N	TY Region 19 Override	104	1N	NY Region 13 Override
077	1N	Program Validation	105	1N	NY Region 14 Override
078	1N	Sequence Validation	106	1N	NY Region 15 Override
079	1N	Sequence #1	123	1N	NY Region 16 Override
080	1A	Sequence #1 Validation	124	1N	NY Region 17 Override
081	1N	Sequence #2	125	1N	NY Region 18 Override
082	1A	Sequence #2 Validation	126	1N	NY Region 19 Override
083	1N	Sequence #3			

If a sequence of courses is required, provisions have been designed into the system to identify a course with up to a maximum of six unique course sequences in either a mandatory or voluntary compliance mode.-- See Figure 5 for a composite printout of the Program File, Course Codefile, and course subrecord of the Program File -- Note that for each of the eight courses listed under program 001, six positions labeled SEQ1 through SEQ6 are specified. Any combination of the eight courses can be selected and designated as a unique sequence of courses for the program. Likewise, a specific course can be included and so designated with as many as six unique combinations of courses. In addition to specifying a course as a part of a particular sequence of courses, fields 080, 082, 084, 086, 088 and 090 allow for the course to be designated as a required course or as a highly recommended course for the sequence in question. This allows for a tremendous amount of flexibility in utilizing the system to administer planned program sequential courses meeting the training objectives of a specific vocational education program.

Annual Plan Subsystem

Vocational staff in local education agencies are encouraged by DAVTE to offer vocational programs which are well suited to the needs of their students. The key to this task is efficient locally directed evaluation and careful planning, culminating not only in the updating and upgrading of vocational offerings,

FIGURE 5 -- COMPOSITE PRINTOUT OF VOCATIONAL
PROGRAM AND COURSE DATA

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                              STATE OF ILLINOIS
                DEPARTMENT OF ADULT, VOCATIONAL AND TECHNICAL EDUCATION
                         VE012 COURSE/PROGRAM LISTING

PROGRAM NO:    001 AGRICULTURAL PRODUCTION         OE NO:   01.0100 AGRICULTURAL PRODUCTION
    TYPE - 1         NO COURSES REQD - 00            FUNDING     G 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
    STATUS - 1       AVC - N                              TY:    C - - - - - - - - - -  -  -  -  -  -  -  -  -  -
    VOC/ORT - 2      CLUSTER - 01                         NY:    C - - - - - - - - - -  -  -  -  -  -  -  -  -  -

    COURSE:   050    BASIC AGRICULTURE I           SEQ1 -     SEQ2 - SEQ3 -    SEQ4 -     SEQ5 -    SEQ6 -
        GL:  3       TYPE:  1                      FUNDING   G 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
       VAL:  0       SEQ REG:  N                        TY:  3 - - - - - - - - -  -  -  -  -  -  -  -  -  -  -
                                                        NY:  3 - - - - - - - - -  -  -  -  -  -  -  -  -  -  -

    COURSE:   089    AGRICULTURAL POWER I          SEQ1 -     SEQ2 - SEQ3 -    SEQ4 -     SEQ5 -    SEQ6 -
        GL:  3       TYPE:  2                      FUNDING   G 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
       VAL:  0       SEQ REG:  N                        TY   1 - - - - - - - - -  -  -  -  -  -  -  -  -  -  -
                                                        NY   1 - - - - - - - - -  -  -  -  -  -  -  -  -  -  -

    COURSE:   094    CONSERVATION I                SEQ1 -     SEQ2 - SEQ3 -    SEQ4 -     SEQ5 -    SEQ6 -
        GL:  3       TYPE:  2                      FUNDING   G 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
       VAL:  0       SEQ REG:  N                        TY:  1 - - - - - - - - -  -  -  -  -  -  -  -  -  -  -
                                                        NY:  1 - - - - - - - - -  -  -  -  -  -  -  -  -  -  -

    COURSE:   102    ADVANCED AGRICULTURE I        SEQ1 -     SEQ2 - SEQ3 -    SEQ4 -     SEQ5 -    SEQ6 -
        GL:  3       TYPE:  2                      FUNDING   G 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
       VAL:  0       SEQ REG:  N                        TY:  1 - - - - - - - - -  -  -  -  -  -  -  -  -  -  -
                                                        NY:  1 - - - - - - - - -  -  -  -  -  -  -  -  -  -  -

    COURSE:   148    ANIMAL SCIENCE SPECIALITY I   SEQ1 -     SEQ2 - SEQ3-     SEQ4 -     SEQ5 -     SEQ6 -
        GL.  3       TYPE:  2                      FUNDING   G 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
       VAL:  0       SEQ REG:  N                        TY:  1 - - - - - - - - -  -  -  -  -  -  -  -  -  -  -
                                                        NY:  1 - - - - - - - - -  -  -  -  -  -  -  -  -  -  -

    COURSE:   149    ANIMAL SCIENCE SPECIALITY II  SEQ1 -     SEQ2 - SEQ3 -    SEQ4 -     SEQ5 -    SEQ6 -
        GL:  3       TYPE:  2                      FUNDING   G 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
       VAL:  0       SEQ REG:  N                        TY:  1 - - - - - - - - -  -  -  -  -  -  -  -  -  -  -
                                                        NY:  1 - - - - - - - - -  -  -  -  -  -  -  -  -  -  -

    COURSE:   152    FARM BUSINESS MANAGEMENT      SEQ1 -     SEQ2 - SEQ3 -    SEQ4 -     SEQ5 -    SEQ6 -
        GL:  3       TYPE:  2                      FUNDING   G 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
       VAL:  0       SEQ REG:  N                        TY:  1 - - - - - - - - -  -  -  -  -  -  -  -  -  -  -
                                                        NY:  1 - - - - - - - - -  -  -  -  -  -  -  -  -  -  -

    COURSE:   199    AG COOPERATIVE EDUCATION      SEQ1 -     SEQ2 - SEQ3 -    SEQ4 -     SEQ5 -    SEQ6 -
        GL:  3       TYPE:  2                      FUNDING   G 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
       VAL:  0       SEQ REG:  N                        TY:  1 - - - - - - - - -  -  -  -  -  -  -  -  -  -  -
                                                        NY:  1 - - - - - - - - -  -  -  -  -  -  -  -  -  -  -
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but also in a planning document for each local education agency within the state. This Local District One- and Five-Year Plan is completed annually and submitted to the Department of Adult, Vocational and Technical Education for approval. Upon approval by DAVTE, the plan serves as the contractual agreement between the LEA and the SEA for disbursement of vocational funds.

The process of preparing and approving approximately 850 plans annually creates a voluminous amount of paperwork and requires an untold number of man-hours. In an effort to expedite the planning process, the annual plan subsystem was designed to use the high speed processing capabilities of a computer to replace as much of the manual processing of paperwork as possible. To accomplish this task, a program and course record was structured as an integral part of the School File.

The Program Record of the School File, defined in Table 9, is used to identify each vocational program offered by a particular attendance center of a school district, fields 061 and 060 respectively. The program funding type in field 062 is coded as one of the following:

TABLE 9

PROGRAM RECORD OF SCHOOL FILE

Field	Length	Data Descriptor	Field	Length	Data Descriptor
060	6N	Attendance Center Number	072	5N	Reimbursement TY-1
061	3N	Program Number	073	5N	Reimbursement TY-2
062	1N	Program Funding Type	074	5N	Reimbursement TY-3
063	1AN	Program Funding Override	075	1N	Program Status TY
067	4N	Vocational Enrollment TY	C76	1N	Program Status NY
068	4N	Vocational Enrollment TY-1	066	1N	Special Organization TY
069	4N	Vocational Enrollment TY-2	078	1N	Special Organization NY
070	4N	Vocational Enrollment TY-3	064	1N	Initial Program
071	5N	Reimbursement TY	065	4N	Initial Program Delete Date

1. Regular (Part B)
2. Exemplary (Part D)
3. Consumer & Homemaking (Part F)
4. Cooperative (Part G)
5. Work Study (Part H)
6. CETA
7. Adult (Preparatory)
8. Adult (Supplemental)
9. Adult (Apprenticeship)

Given the merits previously discussed for establishing program funding priorities on a regional basis, it was deemed advantageous to the design of the system to include provisions for funding programs on a differential basis at the attendance center level. Field 063 is used to indicate when special consideration of the unique needs of the attendance center has resulted in a program funding priority for the attendance center in question that is different from either the regional or the state funding level. If field 063 is not valued, then the level of funding is determined by the regional funding priority unless it is not valued, in which case the state funding priority would identify the approved level of program funding for the attendance center.

Field 067 is used as an accumulator to record the total number of students throughout the year who take courses offered under the program whereas fields 068 through 070 are used to store the annual program enrollment for each of the three preceding years. The reimbursement data identified with fields 071 through 074 follow the same pattern of collection and storage as described for student enrollments.

The program status in field 075 designates the program as active or inactive. If an attendance center should decide to drop one of its active programs, then deletion of the record from the school file would result in the loss of any associated historical data. To prevent such an occurrence, the program is coded as inactive when terminated by the attendance center but remains intact as a program record on the school file for four years. The annual shifting of enrollment and reimbursement data back one year at the end of each school year will, after four years, result in all historical data having "zero" values at which time the program record is deleted from the file.

Since LEA annual plans are processed and approved in the spring and do not replace the district's current plan until July 1, it is necessary to store the program status for next year in field 076. After all administrative processing for the current school year has been completed (approximately August 1), end-of-year maintenance on the system is processed and all accumulated totals are shifted down one year while all planning data stored in "NY" fields are shifted to the appropriate "TY" fields. The net result is that additions and deletions are processed to the current plan thereby reflecting the new plan in "TY" fields.

The reimbursement procedure employed in the State of Illinois provides added money to school districts qualifying as special organizations or offering initial programs. Special organizations are defined as either (1) area vocational centers, (2) joint agreements, or (3) cooperative agreements and specified for this year and next year in fields 066 and 078, respectively. The initial program, field 064, is used to identify programs that are just being started which have a high start-up cost and qualify for added funding. At the same time that a program is deemed to qualify as an initial program, the termination date of its special status can be recorded in field 065. The system will automatically disallow any added funding for the program after that date.

TABLE 10

COURSE RECORD OF SCHOOL FILE

Field	Length	Data Descriptor
100	6N	Attendance Center Number
101	3N	Program Number
102	3N	Course Number
114	36AN	School Course Title
103	1N	Course Funding Override
106	2N	Number Sections TY
111	2N	Number Sections NY
115	4N	Vocational Enrollment TY
116	4N	Vocational Enrollment TY-1
117	4N	Vocational Enrollment TY-2
118	4N	Vocational Enrollment TY-3
109	3N	Estimated Enrollment TY
124	3N	Estimated Enrollment NY
119	5N	Reimbursement TY
120	5N	Reimbursement TY-1
121	5N	Reimbursement TY-2
122	5N	Reimbursement TY-3
104	1A	Initial Course
105	4N	Initial Course Delete Date
107	1N	Special Organization TY
123	1N	Special Organization NY
108	3N	Course Credits TY
112	3N	Course Credits NY
110	3N	Course Hours TY
125	3N	Course Hours NY
113	1N	Course Status NY

The course record of the School File, enumerated in Table 10, is used to identify the vocational courses offered under each vocational program in a particular attendance center, fields 102, 101, and 100 respectively. Although the use of a standardized course title is strongly encouraged as a part of the system, provisions were incorporated into the MIS to store the attendance center's own course title. As such, all reports produced from the system and returned to the local school district display both the attendance center's course title and the recommended MIS course title. Thus, a school district is not forced into accepting standardized course titles as a prerequisite for participating in the MIS. Likewise, the dual system of course titling lends itself to an evolutionary change-over to standardized course titles.

The course funding override in field 103 is the course counterpart to the program funding override previously discussed for the program record of the School File. The number of sections taught for each course for "TY" and "NY," fields 106 and 111, and the estimated enrollment for "TY" and "NY," fields 109 and 124, are supplied by the attendance center. Actually, the attendance center is required to furnish the next year's data when this Annual One- and Five-Year Plan is submitted to DAVTE for approval. During end-of-year processing, "NY" data is moved to "TY" fields and retained for future reference.

Vocational enrollment figures in fields 115 through 118 and reimbursement figures in fields 119 through 122 are compiled and stored in an identical manner as in the program record, the only exception being that the data are course specific. The initial course code in field 104, its delete date in field 105 and the "TY" and "NY" special organization codes in fields 107 and 123 have the same function as described for the program record with the exception that, here again, the data are course specific.

The "TY" and "NY" course credits, fields 108 and 112 respectively, are furnished by the attendance center and used to calculate reimbursement which is based on a predetermined amount for each student credit-hour generated in the vocational course. Since adult non-credit courses are reimbursed on the basis of student contact hours generated, fields 110 and 125 are used to identify the total "TY" and "NY" contact hours for such courses. The course status code identified with field 113 enables the system to create a course record for an attendance center during the annual plan approval phase and maintain the course as inactive until the new plan becomes effective.

After a local education agency has submitted an Annual One- and Five-Year Plan and DAVTE has approved it for the coming school year, the MIS can generate the report shown in Figure 6 for feedback to the school district. Once a school district's course within program listing from its annual plan is incorporated into the system, a report similar to that shown in Figure 7 can be produced when the district begins planning for the next school year. This historical profile of enrollments and reimbursements constitutes a valuable decision-making base of information for the vocational director who must decide what programs and courses should be offered next year.

Since a school district's offering of courses within programs does not change significantly from one year to the next, the annual changes are processed as updates to the program and course records of the School File. As LEA's begin their planning cycle in the spring, the report shown in Figure 8 is generated from the system and sent to each school district. The courses within programs are those courses within programs which the attendance center is currently offering. The vocational director draws a line through any course or program the attendance center does not intend to offer during the next school year. New courses are written in under the appropriate programs and entirely new programs with associated courses are entered at the end of the report. For those courses and programs already on the report that the attendance center plans to offer again during the next school year, estimated enrollment figures and corrections, if any, to the preprinted data are the only items that the vocational director must provide. The list is returned to DAVTE and after course/program changes, additions and deletions are approved, the updates are processed by the system and the report shown in Figure 6 is returned to the school district for their information. The time frame for submittal and approval of documents within the annual plan subsystem is as follows:

January -- VE004 disseminated to local school to begin preparation of their program and course plans for the coming school year.

March -- VE004 returned to DAVTE for approval of new programs and courses and to update the respective files.

May -- Updates completed and the VE018 returned to local school districts to acknowledge their approved plans for the coming school year.

July -- End-of-year processing replaces current plan data with the new plan data and subsystem is ready for the new school year.

July through June -- All school transactions are processed in accordance with the new plan data which reside in the subsystem as the current plan.

January -- Annual plan submission cycle starts again.

```
                         FIGURE 6 -- LEA'S APPROVED PLAN OF VOCATIONAL COURSE
                                       OFFERINGS BY PROGRAM
                                        STATE OF ILLINOIS
                         DEPARTMENT OF ADULT, VOCATIONAL AND TECHNICAL EDUCATION
                                   VE018 APPROVED COURSES/PROGRAM
            -ATTENDANCE CENTER-
NO:  0136-01                                                                   -ADMINISTRATIVE CENTER-
     NONAME HIGH SCHOOL                                                  NO:   0136-00
     100 N FIRST ST                       MANPOWER REGION:  II                 NONAME CU SCHOOL DISTRICT 427
     SPRINGFIELD ILL    62777             COUNTY:  SANGAMON                    100 N FIRST ST
          217/782/0733                    DISTRICT:  427                       SPRINGFIELD ILL    62777
     LOCAL DATA COORDINATOR'S NAME        SCHOOL TYPE:  SECONDARY                   217/782/0736
                                                                               SUPERINTENDENT'S NAME
*****        PROGRAM/COURSE                  OE          INTL   DELETE  SPEC     FUNDING LEVELS        PR/CRS
             NUMBER -- NAME                NUMBER        START   DATE   ORGAN  STATE REGION  SCHOOL    TYPE
     097  BOOKKEEPING                      14.0102         -       -      -      C      -       -      REG

         212  GENERAL BUSINESS TRAINING   (ORT BUS OCC 1  )   -       -      -      3      -       -      ORIENT
                CREDITS: 0.50  SECTIONS: 13  EST ENROLL: 276
         236  BOOKKEEPING I & II          (BASIC RCDKPG   )   -       -      -      3      -       -      ORIENT
                CREDITS: 0.50  SECTIONS:  5  EST ENROLL:  10
         291  DATA PROCESSING             (DATA PROC 1    )  YES    0776     -      1      -       -      VOC
                CREDITS: 0.50  SECTIONS:  1  EST ENROLL:  29
         297  RECORD KEEPING              (RECORDKEEPING  )   -       -      -      1      -       -      VOC
                CREDITS: 0.50  SECTIONS:  3  EST ENROLL:  71
         335  BOOKKEEPING III & IV        (ACCOUNTING 1   )   -       -      -      1      -       -      VOC
                CREDITS: 0.50  SECTIONS:  2  EST ENROLL:  37
         336  ACCOUNTING I & II           (ACCOUNTING 2   )   -       -      -      1      -       -      VOC
                CREDITS: 0.50  SECTIONS:  1  EST ENROLL:  28
         344  CLERICAL PRACTICE           (CLER OFF PRAC  )   -       -     JA      1      -       -      VOC
                CREDITS: 0.50  SECTIONS:  2  EST ENROLL:  57
         398  OFFICE OCCUPATIONS COOP     (OFF OCC COED   )   -       -      -      1      -       -      COOP
                CREDITS: 1.00  SECTIONS:  1  EST ENROLL:  14
*****        PROGRAM/COURSE                  OE          INTL   DELETE  SPEC     FUNDING LEVELS        PR/CRS
             NUMBER -- NAME                NUMBER        START   DATE   ORGAN  STATE REGION  SCHOOL    TYPE
     124  SECRETARIAL                      14.0702         -       -      -      B      -       -      REG
         234  TYPING I & II               (TYPING 1       )   -       -      -      3      -       -      ORIENT
                CREDITS: 0.50  SECTIONS:  4  EST ENROLL: 115
         295  OFFICE MACHINES             (OFF MACHINE 1  )   -       -      -      1      -       -      VOC
                CREDITS: 0.50  SECTIONS:  4  EST ENROLL: 100

         364  TYPING III & IV             (TYPING 2       )   -       -      -      1      -       -      VOC
                CREDITS: 0.50  SECTIONS:  2  EST ENROLL:  45
```

FIGURE 7 -- LEA'S HISTORICAL PROFILE OF
ENROLLMENTS AND REIMBURSEMENTS
OF VOCATIONAL COURSE OFFERINGS
BY PROGRAM

```
                              STATE OF ILLINOIS
              DEPARTMENT OF ADULT, VOCATIONAL AND TECHNICAL EDUCATION
                  VE020 HISTORICAL PROFILE OF COURSES/PROGRAM

        -ATTENDANCE CENTER-                                                  -ADMINISTRATIVE CENTER-
NO:  0136-01                                                           NO:   0136-00
     NONAME HIGH SCHOOL                 MANPOWER REGION:  II                 NONAME CU SCHOOL DISTRICT 427
     100 N FIRST ST                     COUNTY:  SANGAMON                    100 N FIRST ST
     SPRINGFIELD ILL    62777           DISTRICT:  427                       SPRINGFIELD ILL    62777
             217/782/0733               SCHOOL TYPE:  SECONDARY                      217/782/0736
     LOCAL DATA COORDINATOR's NAME                                           SUPERINTENDENT'S NAME
*****
            PROGRAM/COURSE                    OE                  ENROLLMENTS                          REIMBURSEMENTS
            NUMBER -- NAME                    NUMBER       TY(F) TY(-1) TY(-2) TY(-3)   TY(F)  TY(-1)  TY(-2)  TY(-3)

     097  BOOKKEEPING                         14.0102

            212  GENERAL BUSINESS TRAINING    (ORT BUS OCC 1  )  364   548   519   483   3,640   5,480   5,190   4,830
                   CREDITS: 0.50  SECTIONS:  13  EST ENROLL: 276
            236  BOOKKEEPING I & II           (BASIC RCDKPG   )  104   190   140   126   1,040   1,900   1,400   1,260
                   CREDITS: 0.50  SECTIONS:   5  EST ENROLL:  10
            291  DATA PROCESSING              (DATA PROC 1    )    9    00    00    00     407      00      00      00
                   CREDITS: 0.50  SECTIONS:   1  EST ENROLL:  29
            297  RECORD KEEPING               (RECORDKEEPING  )   64    70    70    64     800     875     875     800
                   CREDITS: 0.50  SECTIONS:   3  EST ENROLL:  71
            335  BOOKKEEPING III & IV         (ACCOUNTING 1   )   28    45    44    40     350     563     550     500
                   CREDITS: 0.50  SECTIONS:   2  EST ENROLL:  37
            336  ACCOUNTING I & II            (ACCOUNTING 2   )   27    46    47    44     338     575     588     550
                   CREDITS: 0.50  SECTIONS:   1  EST ENROLL:  28
            344  CLERICAL PRACTICE            (CLER OFF PRAC  )   64   120    98    73     800   1,500   1,225     913
                   CREDITS: 0.50  SECTIONS:   2  EST ENROLL:  57
            398  OFFICE OCCUPATIONS COOP      (OFF OCC COED   )   16    13    10    10     800     650     650     500
                   CREDITS: 1.00  SECTIONS:   1  EST ENROLL:  14
*****
            PROGRAM/COURSE                    OE                  ENROLLMENTS                          REIMBURSEMENTS
            NUMBER -- NAME                    NUMBER       TY(F) TY(-1) TY(-2) TY(-3)   TY(F)  TY(-1)  TY(-2)  TY(-3)
     124  SECRETARIAL                         14.0702
            234  TYPING I & II                (TYPING I       )  108    91    74    00   1,080     910     740      00
                   CREDITS: 0.50  SECTIONS:   4  EST ENROLL: 115
            295  OFFICE MACHINES              (OFF MACHINE 1  )  104    86    59    00   1,820   1,505   1,033      00
                   CREDITS: 0.50  SECTIONS:   4  EST ENROLL: 100
            364  TYPING III & IV              (TYPING 2       )   39    41    32    00     683     718     560      00
                   CREDITS: 0.50  SECTIONS:   2  EST ENROLL:  45
              FIGURE 8 -- REPORT FORM FOR LEA VOCATIONAL COURSE AND PROGRAM
                            UPDATE TO ONE- AND FIVE-YEAR PLAN

                                   STATE OF ILLINOIS
                  DEPARTMENT OF ADULT, VOCATIONAL AND TECHNICAL EDUCATION
                             VE004 UPDATE FOR COURSES/PROGRAMS

     -ATTENDANCE CENTER-
NO: 0136-01                                                                -ADMINISTRATIVE CENTER-
    NONAME HIGH SCHOOL                                             NO:   0136-00
    100 N FIRST ST                   MANPOWER REGION:  II                NONAME CU SCHOOL DISTRICT 427
    SPRINGFIELD ILL    62777         COUNTY:  SANGAMON                   100 N FIRST ST
           217/782-0733              DISTRICT:  427                      SPRINGFIELD ILL    62777
    LOCAL DATA COORDINATOR'S NAME    SCHOOL TYPE:  SECONDARY                    217/782/0736
                                                                         SUPERINTENDENT'S NAME

         COURSES WITHIN PROGRAMS                 OE CODE  SPEC INT  TYPE  SEM    EST STUDENTS FOR CREDIT HAND DIS   FUNDING
                                                          ORG  PRG  CRSE  CRD     9  10  11  12  ADULT  STDS STDS  TY   NY
                                                         I-----I----I------------------------------------------------------------
    097  BOOKKEEPING                             14.0102 I     I    I *******   FUNDING LEVEL FOR THIS PROGRAM IS: C *******
                                                         I-----I----I-------I ------II-- I --- I --- I ---I------- II -----I -----II----I----I
      I  212  GENERAL BUSINESS TRAINING                  I     I    I       I      II    I     I     I    I          II      I      II    I    I
      I    (ORIENTATION BUSINESS OCCUPATIONS I)          I     I    IORIENTI0.50  II    I     I     I    I          II      I      II    I    I
      I                                                  I     I    I       I      II    I     I     I    I          II      I      II 3  I    I
      I--------------------------------------------------I-----I----I------- I------II-- I----I----I----I-------II-----I ---- II----I--- I
      I  236  BOOKKEEPING I & II                         I     I    I       I      II    I     I     I    I          II      I      II    I    I
      I    (BASIC RECORDKEEPING                    )     I     I    IORIENTI0.50  II    I     I     I    I          II      I      II    I    I
      I--------------------------------------------------I-----I----I------- I------II-- I----I----I----I-------II-----I ---- II----I--- I
      I  291  DATA PROCESSING                            I     I    I       I      II    I     I     I    I          II      I      II    I    I
      I    (DATA PROCESSING 1                      )     I     I    IVOC    I0.50  II    I     I     I    I          II      I      II    I    I
      I                                                  I     I    I       I      II    I     I     I    I          II      I      II 1  I    I
      I--------------------------------------------------I-----I----I------- I------II-- I----I----I----I-------II-----I ---- II----I --- I
      I  297  RECORD KEEPING                             I     I    I       I      II    I     I     I    I          II      I      II    I    I
      I    (RECORDKEEPING                          )     I     I    IVOC    I0.50  II    I     I     I    I          II      I      II    I    I
      I                                                  I     I    I       I      II    I     I     I    I          II      I      II 1  I    I
      I--------------------------------------------------I-----I----I------- I------II -- I----I----I----I-------II-----I ---- II----I --- I
      I  344  CLERICAL PRACTICE                          I     I    I       I      II    I     I     I    I          II      I      II    I    I
      I    (CLERICAL OFFICE PRACTICE               )     I     I    IVOC    I0.50  II    I     I     I    I          II      I      II    I    I
      I                                                  I     I    I       I      II    I     I     I    I          II      I      II 1  I    I
      I--------------------------------------------------I-----I----I------- I------II -- I----I----I----I-------II-----I ---- II----I --- I
      I  335  BOOKKEEPING III & IV                       I     I    I       I      II    I     I     I    I          II      I      II    I    I
      I    (ACCOUNTING 1                           )     I     I    IVOC    I0.50  II    I     I     I    I          II      I      II    I    I
      I                                                  I     I    I       I      II    I     I     I    I          II      I      II 1  I    I
      I--------------------------------------------------I-----I----I------- I------II -- I----I----I----I-------II-----I ---- II --- I --- I
      I  336  ACCOUNTING I & II                          I     I    I       I      II    I     I     I    I          II      I      II    I    I
      I    (ACCOUNTING 2                           )     I     I    IVOC    I0.50  II    I     I     I    I          II      I      II    I    I
      I                                                  I     I    I       I      II    I     I     I    I          II      I      II 1  I    I
      I--------------------------------------------------I-----I----I------- I------II -- I----I----I----I-------II-----I ---- II --- I --- I
      I  398  OFFICE OCCUPATIONS COOP                    I     I    I       I      II    I     I     I    I          II      I      II    I    I
      I    (OFFICE OCCUP COOP EDUCATION            )     I     I    ICOOP   I1.00  II    I     I     I    I          II      I      II 1A I    I
      I--------------------------------------------------I-----I----I------- I------II -- I----I----I----I-------II-----I ---- II --- I --- I

         COURSES WITHIN PROGRAMS                 OE CODE  SPEC INT  TYPE  SEM    EST STUDENTS FOR CREDIT HAND DIS   FUNDING
                                                          ORG  PRG  CRSE  CRD     9  10  11  12  ADULT  STDS STDS  TY   NY
                                                         I----- I---I ----------------------------------------------------------
    124  SECRETARIAL                                     I     I    I *******   FUNDING LEVEL FOR THIS PROGRAM IS: B *******
                                                         I ---- I---I ------ I-----II ---I--- I---- I ---I ------ II-----I-----II----I----I
      I  234  TYPING I & II                              I     I    I       I      II    I     I     I    I          II      I      II    I    I
      I    (TYPING 1                               )     I     I    IORIENTI0.50  II    I     I     I    I          II      I      II 3  I    I
      I--------------------------------------------------I-----I----I------- I------II--- I--- I----I----I------- II ---- I -----II ----I ----I
```

Student Enrollment Subsystem

The student enrollment subsystem is the focal point of the MIS. It not only provides for automation of an existing data collection and analysis function, but also replaces the old concept of collecting student attendance data aggregated by vocational course and program with a more useful concept of collecting vocational course and program data directly from each student each semester.

The subsystem consists of two files, the first of which contains public supply information described in Table 11. Since the subsystem is student-based, the file contains an individual record for each vocational student in each attendance center participating in the system. By having an individual record for each vocational student, it is possible to use the computer to simplify the reporting and reimbursement processes between the Local Education Agency (LEA) and DAVTE. Also, planning reports are much easier to assemble and provide to the LEA and DAVTE staff members. A student record can be described as a computerized "file folder" which is established for each student and maintained as long as the student attends a particular attendance center. When the student graduates or transfers out of the attendance center, the "file folder" can be transferred to another computer file for appropriate storage, follow-up, deletion, or the like.

TABLE 11

PUBLIC SUPPLY FILE

Field	Length	Data Descriptor	Field	Length	Data Descriptor
001	9N	Student's Identification Number	030	1N	Handicapped Code 6
002	16AN	Student's Last Name	031	1N	Handicapped Code 7
003	11AN	Student's First Name	032	1N	Handicapped Code 8
019	1AN	Student's Middle Initial	033	1N	Handicapped Code 9
004	6N	Birth Date	034	1N	Handicapped Code 10
005	1A	Sex	035	1N	Disadvantaged Code 1
006	1A	Grade	036	1N	Disadvantaged Code 2
007	6N	Attendance Center Number	037	1N	Disadvantaged Code 3
017	1N	Veteran	038	1N	Disadvantaged Code 4
018	1N	Origin	039	1N	Disadvantaged Code 5
010	4N	Date of Entry	040	1N	Disadvantaged Code 6
008	3N	Declared Program	041	1N	Disadvantaged Code 7
016	4N	Date Program Initiated	042	1N	Disadvantaged Code 8
009	3N	Other Program Completed	043	1N	Disadvantaged Code 9
025	1N	Handicapped Code 1	044	1N	Disadvantaged Code 10
026	1N	Handicapped Code 2	011	4N	Program Completion Date
027	1N	Handicapped Code 3	012	1N	Completion Code
028	1N	Handicapped Code 4	013	1N	Marketable Skills Code
029	1N	Handicapped Code 5	014	4N	Date of Last Update

Field 001, the student's identification number, is a nine-digit number originally designed to contain the student's social security number. This has since been modified to allow any nine-digit identifier in the field in lieu of the social security number so long as the numbers are unique within the attendance center.

Fields 002, 003 and 019 are used to store the student's name. The birth date stored in field 004 follows the pattern of month-day-last two digits of year. The sex information in field 005 is encoded as either male or female while field 006, grade level, is coded as one of the following:

A - 9th
B - 10th
C - 11th
D - 12th
E - College Freshman
F - College Sophomore
G - College - Other
H - Adult-Preparatory
I - Adult-Supplemental
J - Adult-Apprenticeship

The number in field 007 identifies the student's attendance center and is used to aggregate data for reporting purposes. Likewise, fields 017 and 018, veteran's status and ethnic origin respectively, are used primarily for reporting purposes.

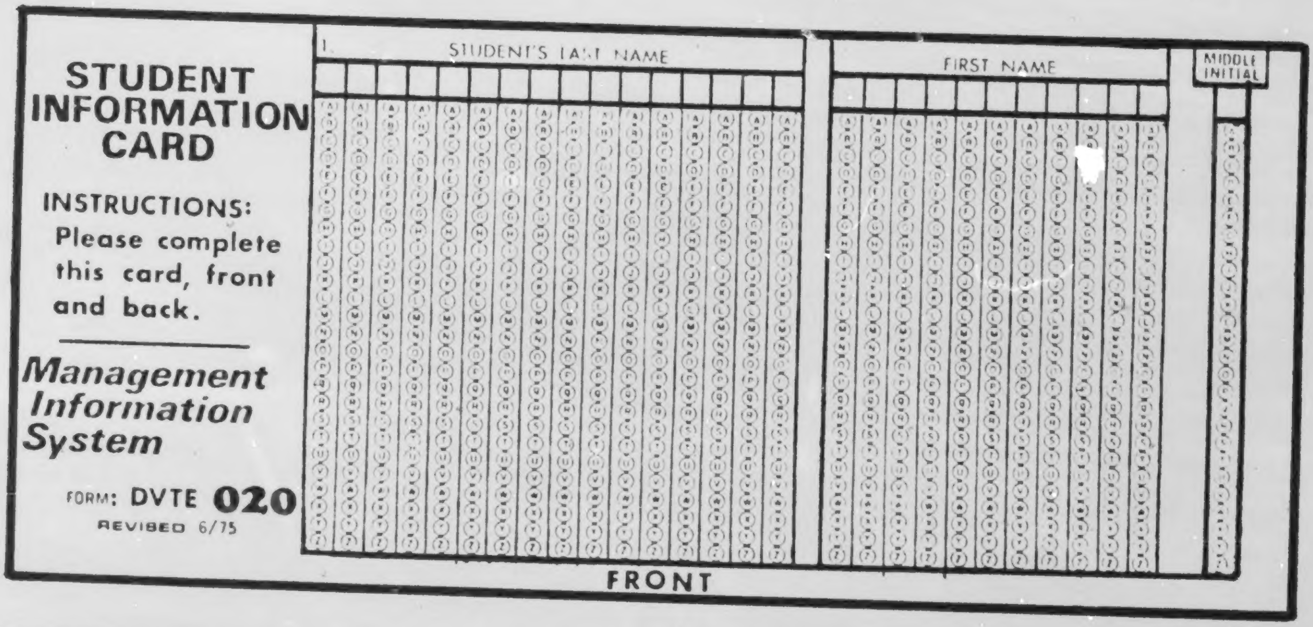
Since a record is first created for each student as the individual enters vocational education and then serves as an accumulator of information over the duration of the student's participation in vocational education programs, field 010 identifies the date that the record is initially created. The record is created by having vocational students complete a Student Information Card (SIC) which is shown in Figure 9.

A Student Information Card must be completed by each vocational student prior to or at the beginning of the first semester a vocational course is taken, hereinafter referred to as the "Declaration Period." The best time and method for doing this is left to the discretion of the LEA so that it can be merged into the local district's schedule of activities. However, the Declaration Period must be completed by the end of the third full week of school.

The first time a school district participates in the MIS, all vocational students in the district must complete a SIC. Once this has been done, another SIC is not required as long as the student remains in the same attendance center. After that, only vocational students entering the attendance center for the first time have to complete the Student Information Card. Hence, after the school district has completed the initial Declaration Period, all subsequent Declaration Periods can be established as a part of the regular orientation/registration process for new students transferring from another school district or changing attendance centers within the district.

Appendix D contains a step-by-step procedure for LEA staff to follow in having vocational students complete the Student Information Cards. The completed cards are then sent to DAVTE's MIS Control Unit

FIGURE 9 -- Front and Back View of a Student Information Card



STUDENT INFORMATION CARD

INSTRUCTIONS:
Please complete this card, front and back.

Management Information System

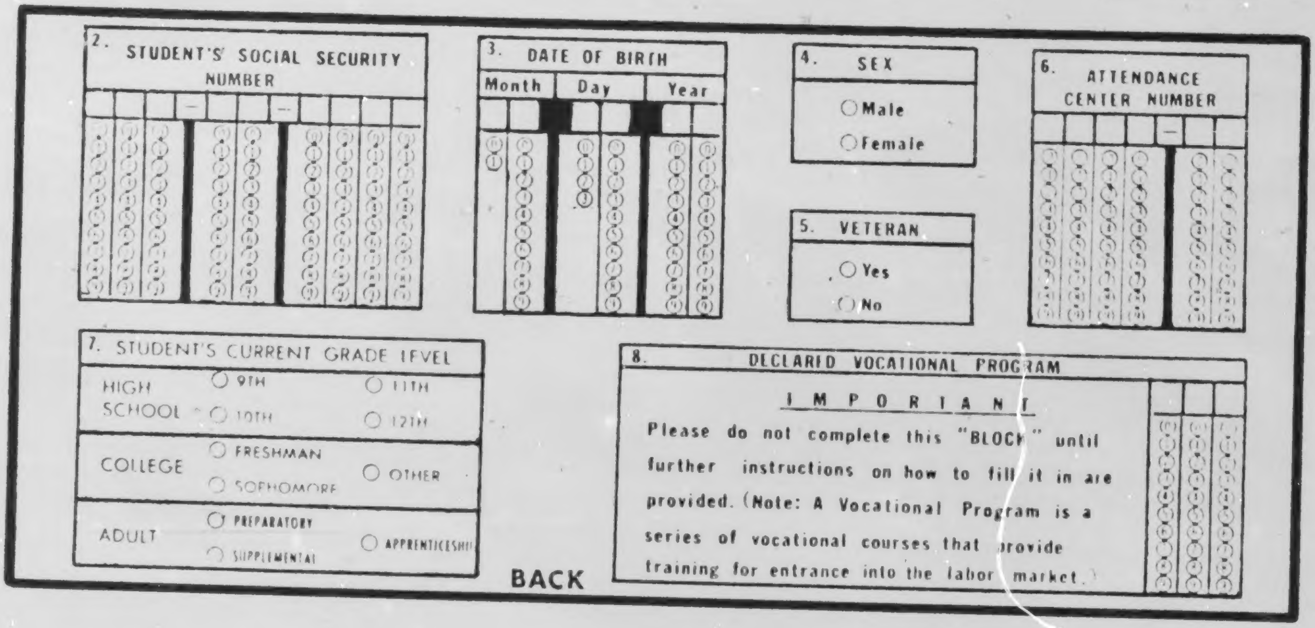
FORM: DVTE **020**
REVISED 6/75

1. STUDENT'S LAST NAME

FIRST NAME

MIDDLE INITIAL

FRONT



2. STUDENT'S SOCIAL SECURITY NUMBER

3. DATE OF BIRTH
Month Day Year

4. SEX
○ Male
○ Female

5. VETERAN
○ Yes
○ No

6. ATTENDANCE CENTER NUMBER

7. STUDENT'S CURRENT GRADE LEVEL

HIGH SCHOOL	○ 9TH ○ 10TH	○ 11TH ○ 12TH
COLLEGE	○ FRESHMAN ○ SOPHOMORE	○ OTHER
ADULT	○ PREPARATORY ○ SUPPLEMENTAL	○ APPRENTICESHI

8. DECLARED VOCATIONAL PROGRAM

IMPORTANT

Please do not complete this "BLOCK" until further instructions on how to fill it in are provided. (Note: A Vocational Program is a series of vocational courses that provide training for entrance into the labor market.)

BACK

which utilizes optical scanning equipment to store the information in the computer.

One response block on the Student Information Card requires students to indicate the specific vocational training objective that they have elected to pursue. Given that a vocational training objective is met through successful completion of a series of vocational courses and a series of vocational courses constitutes a vocational program, the student actually identifies a vocational program as his/her training objective and the MIS program number (see Appendix A) becomes the three-digit identifier stored in field 008 of Table 11. The Declaration Period can be viewed by the district as a counseling activity during which the student can be oriented to the different vocational programs available and which sequence(s) of courses they may need to take to complete a program. It is suggested that the process of completing a SIC be part of a meeting between the student and a counselor, during which the student can more fully explore his/her vocational interests in relation to the programs and course sequence(s) available. At the same time, the counselor can assist the student in completing the SIC accurately. If the student does not have a specific vocational training objective in mind at the time the SIC is completed, then a code of "999" can be entered as the declared vocational program. This code signifies that a specific vocational training objective has not been identified by the student and serves to alert the school district staff to the fact that the student needs counseling assistance. When the student makes a program determination, the code is changed to the appropriate MIS program number. Field 016 in Table 11 is used to identify the date that the vocational training program recorded in field 008 is identified. If a student completes one training program and then elects to pursue a second program, the MIS program number of the completed program is stored in field 009.

After the Student Information Cards are processed by DAVTE and the data are subjected to logical editing routines, a Student Record Validation Report is returned to each school district. This report, a sample of which is shown in Figure 10, is used to validate the student information submitted on the SIC and to collect supplemental data on any handicapped or disadvantaged students. In addition to displaying the SIC data submitted for each student, this report provides 10 code positions to identify handicapped conditions and 10 code positions to identify disadvantaged conditions for each student. Hence, the report must be reviewed by the appropriate staff (e.g., guidance, testing, health, etc.) in order that any handicapped or disadvantaged conditions which exist for a student can be recorded. By referring to the Handicapped Conditions Code Key at the top of Figure 11, the appropriate code letters are circled on the report to indicate one or more handicapped conditions for a student. Likewise, the Disadvantaged Conditions Code Key at the top of Figure 12 is used in a similar manner to report disadvantaged conditions for a student. Appendix E contains a procedure guide for LEA staff to follow in completing the Student Record Validation Report. Fields 025 through 044 of Table 11 are used to store the handicapped and disadvantaged data as reported by the local school districts.

FIGURE 10 -- VALIDATION REPORT FOR DATA COLLECTED ON STUDENT INFORMATION CARDS

```
                              STATE OF ILLINOIS
             DEPARTMENT OF ADULT, VOCATIONAL AND TECHNICAL EDUCATION
                     VE027 STUDENT RECORD VALIDATION REPORT
       -ATTENDANCE CENTER-
NO:  0136-01                                                   -ADMINISTRATIVE CENTER-
     NONAME HIGH SCHOOL                                   NO:  0136-00
     100 N FIRST ST                                            NONAME CU SCHOOL DISTRICT 427
     SPRINGFIELD ILL    62777                                  100 N FIRST ST
            217/782/0733                                       SPRINGFIELD ILL    62777
     LOCAL DATA COORDINATOR'S NAME                                    217/782/0736
                                                               SUPERINTENDENT'S NAME

                                                BIRTH      GRADE
          NAME                SOC SEC NO.  SEX  DATE       LEVEL   VETERAN  DECLARED PROGRAM NUMBER AND NAME
   ABEL          DAN        L  342-78-3154  M   10-26-59    9TH
          HANDICAPPING CODES  H1  H2  H3  H4  H5  H6  H7  H8  H9  H10   NO    192--DRAFTING
          DISADVANTAGING CODES D1 D2  D3  D4  D5  D6  D7  D8  D9  D10
   ADAMS         JOHN       W  783-56-3847  M   09-30-59   10TH
          HANDICAPPING CODES  H1  H2  H3  H4  H5  H6  H7  H8  H9  H10   NO    192--DRAFTING
          DISADVANTAGING CODES D1 D2  D3  D4  D5  D6  D7  D8  D9  D10
   AGARD         SANDRA     P  234-67-9876  F   01-24-60    9TH
          HANDICAPPING CODES  H1  H2  H3  H4  H5  H6  H7  H8  H9  H10   NO    124--SECRETARIAL
          DISADVANTAGING CODES D1 D2  D3  D4  D5  D6  D7  D8  D9  D10
   AGNEY         ROBIN      Q  456-78-3546  M   08-12-59   10TH
          HANDICAPPING CODES  H1  H2  H3  H4  H5  H6  H7  H8  H9  H10   NO    031--INDUSTRIAL MARKETING
          DISADVANTAGING CODES D1 D2  D3  D4  D5  D6  D7  D8  D9  D10
   ALEXANDER     TINA       O  123-23-1234  F   07-31-60    9TH
          HANDICAPPING CODES  H1  H2  H3  H4  H5  H6  H7  H8  H9  H10   NO    124--SECRETARIAL
          DISADVANTAGING CODES D1 D2  D3  D4  D5  D6  D7  D8  D9  D10
   ALLEN         BRYCE      E  890-67-4567  M   12-23-60    9TH
          HANDICAPPING CODES  H1  H2  H3  H4  H5  H6  H7  H8  H9  H10   NO    192--DRAFTING
          DISADVANTAGING CODES D1 D2  D3  D4  D5  D6  D7  D8  D9  D10
   ANTHONY       RAYMOND    E  354-23-1324  M   05-12-58   11TH
          HANDICAPPING CODES  H1  H2  H3  H4  H5  H6  H7  H8  H9  H10   NO    219--COMBINED METAL TRADES
          DISADVANTAGING CODES D1 D2  D3  D4  D5  D6  D7  D8  D9  D10
   ASH           SAMUEL     B  234-78-8097  F   03-04-57   12TH
          HANDICAPPING CODES  H1  H2  H3  H4  H5  H6  H7  H8  H9  H10   NO    170--AUTO MECHANICS
          DISADVANTAGING CODES D1 D2  D3  D4  D5  D6  D7  D8  D9  D10
   AWE           PETER      A  000-00-0000  M   02-18-57   12TH
          HANDICAPPING CODES  H1  H2  H3  H4  H5  H6  H7  H8  H9  H10   NO    171--AIRCRAFT MAINTENANCE
          DISADVANTAGING CODES D1 D2  D3  D4  D5  D6  D7  D8  D9  D10
```

FIGURE 11 -- HANDICAPPED CONDITIONS
CROSS-REFERENCED TO APPLICABLE
SERVICES OFFERED

HANDICAPPED STRUCTURE

Code	Service	Condition Key	Educable Mentally Handicapped H1	Trainable Mentally Handicapped H2	Visually Impaired H3	Hearing Impaired H4	Physical or Health Impaired H5	Speech and/or Language Impairment H6	Learning Disability H7	Behavior Disorder H8	Other H9
01	Class size - lower than average		X	X	X	X	X	X	X	X	
02	Coordination of special education program and vocational program (extra cost involved)		X	X	X	X	X	X	X	X	
03	Core programming		X	X	X	X	X	X	X	X	
04	Curriculum development - develop or modify instructional materials and teaching techniques		X	X	X	X	X	X	X	X	
05	Facility modification, i.e., ramps, elevators, etc.				X	X	X				
06	Flexible scheduling - extended day, week or term		X	X	X	X	X		X	X	
07	Guidance and counseling - individual, group and/or family		X	X	X	X	X	X	X	X	
08	Guide services				X		X				
09	Identification of students		X	X	X	X	X	X	X	X	
10	Individualized instruction		X	X	X	X	X	X	X	X	
11	Instructional materials (special)		X	X	X	X	X	X	X	X	
12	Interpreters					X					
13	Job placement		X	X	X	X	X	X	X	X	
14	Media specialist		X	X	X	X	X	X	X	X	
15	Mini - courses		X	X	X	X	X	X	X	X	
16	Note - taking services				X	X	X				
17	Paraprofessional services		X	X	X	X	X	X	X	X	
18	Program developer/planner/coordinator		X	X	X	X	X	X	X	X	
19	Progress reports (special)		X	X	X	X	X	X	X	X	
20	Psychological services		X	X	X	X	X	X	X	X	
21	Recruit students		X	X	X	X	X	X	X	X	
22	Remedial teachers		X	X	X	X	X	X	X	X	
23	Resource center		X	X	X	X	X	X	X	X	
24	Sheltered workshop training		X	X	X	X	X	X	X	X	
25	Social work and/or family involvement		X	X	X	X	X	X	X	X	
26	Sound amplification devices					X					
27	Special equipment and/or safety devices		X	X	X	X	X			X	

CONTINUATION OF FIGURE 11 -- HANDICAPPED CONDITIONS CROSS-REFERENCED TO APPLICABLE SERVICES OFFERED

	Condition	Educable Mentally Handicapped	Trainable Mentally Handicapped	Visually Impaired	Hearing Impaired	Physical or Health Impaired	Speech and/or Language Impairment	Learning Disability	Behavior Disorder	Other
Code	Service Key	H1	H2	H3	H4	H5	H6	H7	H8	H9
28	Special lighting			X						
29	Special staff	X	X	X	X	X	X	X	X	
30	Special vocational classes	X	X	X	X	X	X	X	X	
31	Staff training and orientation	X	X	X	X	X	X	X	X	
32	Staffings - prescription programming	X	X	X	X	X	X	X	X	
33	Student aides	X	X	X	X	X	X	X	X	
34	Summer orientation program	X	X	X	X	X	X	X	X	
35	Testing, evaluation - special diagnosis of student and/or program	X	X	X	X	X	X	X	X	
36	Transportation services in addition to those supplied regular students	X	X	X	X	X		X	X	
37	Tutorial services	X	X	X	X	X	X	X	X	

FIGURE 12 -- DISADVANTAGED CONDITIONS CROSS-REFERENCED TO APPLICABLE SERVICES OFFERED

DISADVANTAGED STRUCTURE

		Condition							
		Over age	Communication Difficulty	Frequent Absenteeism	Reading Problem	Math Problem	Hostile or Apathetic Behavior	Economic Assistance	Other
Code	Service	Key D1	D2	D3	D4	D5	D6	D7	D8
38	Bilingual and/or bicultural instruction		X	X	X				
39	Class size - lower than average	X	X	X	X	X	X		
40	Core programming	X	X	X	X	X	X		
41	Curriculum development - develop or modify instructional materials and teaching techniques	X	X	X	X	X	X		
42	Flexible scheduling - extended day, week or term	X	X	X	X	X	X		
43	Free clothing							X	
44	Free school materials							X	
45	Free transportation							X	
46	Guidance and counseling - individual, group and/or family	X	X	X			X	X	
47	Identification of students	X	X	X	X	X	X	X	
48	Individualized instruction	X	X	X	X	X	X		
49	Instructional materials - special	X	X	X	X	X	X		
50	Interpreter service		X						
51	Job placement and follow-up services (special)	X	X	X	X	X	X		
52	Media specialist	X	X	X	X	X	X		
53	Mini - courses	X	X	X	X	X	X		
54	Paraprofessional services	X	X	X	X	X	X		
55	Program developer/planner/coordinator	X	X	X	X	X	X	X	
56	Progress records (special)	X	X	X	X	X	X		
57	Psychological services	X	X	X	X	X	X		
58	Recruitment	X	X	X	X	X	X	X	
59	Remedial teachers	X	X	X	X	X	X		
60	Resource center	X	X	X	X	X	X		
61	Social work and/or family involvement	X	X	X	X	X	X	X	
62	Special vocational classes	X	X	X	X	X	X		
63	Special facilities, i.e., workshop, mobile unit, etc.		X		X	X	X		
64	Special staff, i.e., bilinguist, reading or math specialist, etc.		X		X	X	X		
65	Staff training and orientation	X	X	X	X	X	X	X	

CONTINUATION OF FIGURE 12 -- DISADVANTAGED CONDITIONS CROSS-REFERENCED TO APPLICABLE SERVICES OFFERED

	Condition	Over age	Communication Difficulty	Frequent Absenteeism	Reading Problem	Math Problem	Hostile or Apathetic Behavior	Economic Assistance	Other
	Key	D1	D2	D3	D4	D5	D6	D7	D8
Code	Service								
66	Staffings - prescription programming	X	X	X	X	X	X		
67	Student employment - cost to school							X	
68	Summer orientation program	X	X	X	X	X	X		
69	Testing, evaluation - special diagnosis of student and/or program	X	X	X	X	X	X	X	
70	Tutorial services	X	X	X	X	X	X		

Fields 011, 012 and 013 are used to close out a student's record when the individual exits from the attendance center. Specifically, field 011 is the month and year the student departs from the attendance center. The completion code in field 012 is recorded as one of the following:

1. Graduated
2. Dropped Out or Withdrew
3. Transferred Elsewhere
4. Other

The data in field 013, marketable skills code, is merely a "yes" or "no" depending on how the school district classified the student's progress toward achieving the vocational training objective in question. The last field in Table 11, field 014, is used as a work field to store the actual month and year in which the last transaction was processed for the student's record.

In addition to the data described in Table 11, each student record includes provisions for 25 enrollment subrecords. The enrollment subrecords, as described in Table 12, contain data on what courses the student took when. The data is collected by having each vocational student complete a Course/Section Enrollment Card (CEC) in each vocational class he/she attends. The CEC, an example of which is illustrated in Figure 13, is administered in the classroom under the supervision of the vocational teacher during what is termed an "Enrollment Period." An enrollment period occurs during each semester, including the summer session, and is scheduled to coincide with the mid-point of the semester.

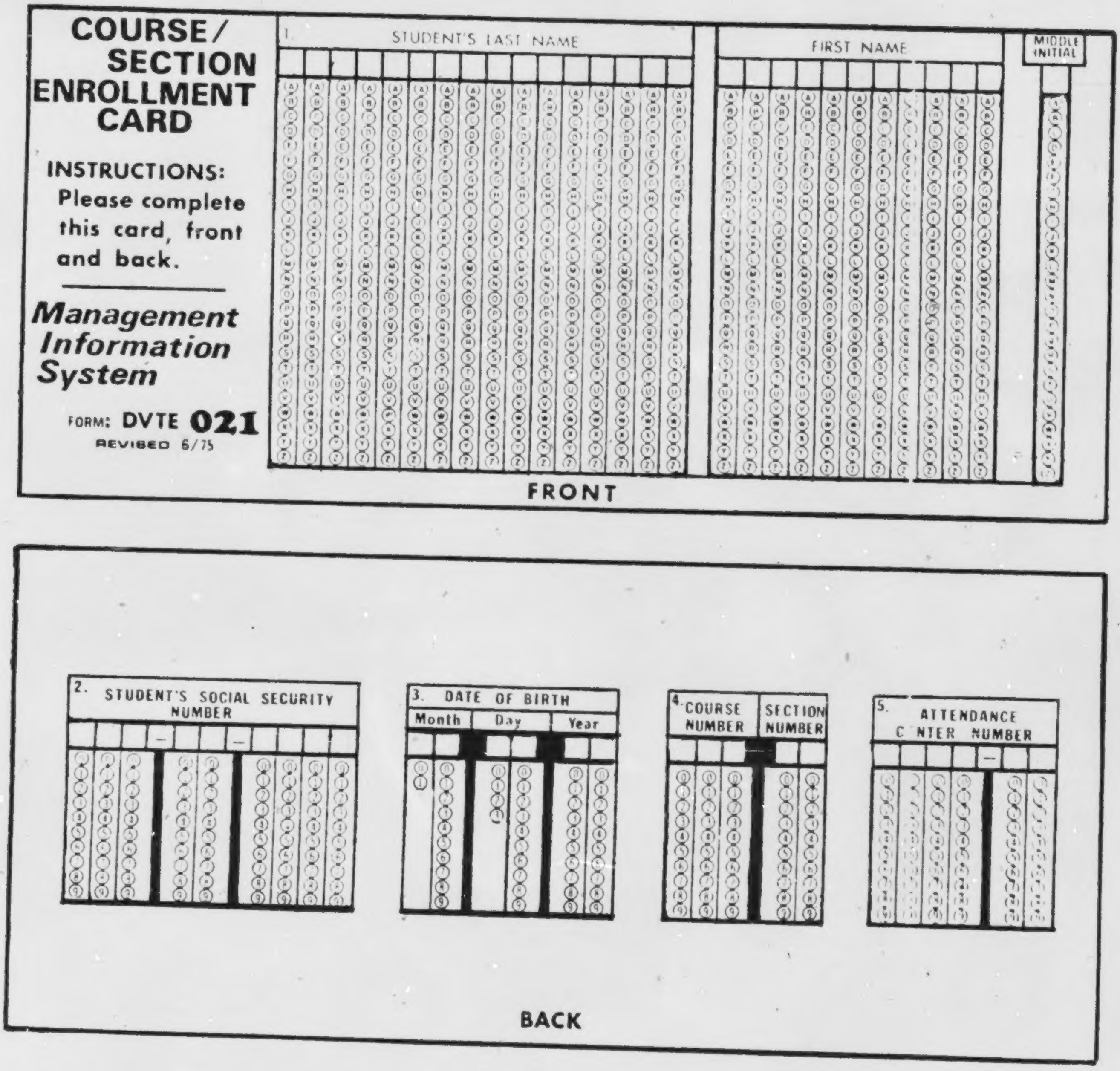
TABLE 12

ENROLLMENT SUBRECORD OF PUBLIC FILE

Field	Length	Data Descriptor
045	4N	School Term/Year Code
046	3N	Course Number
047	2N	Section Number
048	1N	Handicapped Service 1
049	1N	Handicapped Service 2
050	1N	Handicapped Service 3
051	1N	Disadvantaged Service 1
052	1N	Disadvantaged Service 2
053	1N	Disadvantaged Service 3

Since the vocational teachers administer the course enrollment cards in their classroom, an inservice session for the teachers is recommended prior to the enrollment period. Each local vocational director is encouraged to meet with the vocational teachers, present the MIS, discuss its goals, hand out teacher instructions, review the activities that pertain to teachers, and identify the course/section numbers for each vocational course.

FIGURES 13 -- Front and Back View of a Course/Section Enrollment Card



COURSE/ SECTION ENROLLMENT CARD

INSTRUCTIONS:
Please complete this card, front and back.

Management Information System

FORM: DVTE **021**
REVISED 6/75

1. STUDENT'S LAST NAME

FIRST NAME

MIDDLE INITIAL

FRONT

2. STUDENT'S SOCIAL SECURITY NUMBER

3. DATE OF BIRTH
Month Day Year

4. COURSE NUMBER SECTION NUMBER

5. ATTENDANCE CENTER NUMBER

BACK

In addition to the Course/Section Enrollment Card, two other cards are an integral part of the data collection activities that take place during the enrollment period. The two other cards that are used are as follows:

1. A Course/Section Header Card (CHC) is used as a "header" or identifying card for each set of Course/Section Enrollment Cards completed by students for a given vocational education class. This card, as illustrated in Figure 14, is completed by the vocational teachers at the same time the individual administers the CEC's in his/her classroom. Hence, the CHC not only serves as an identifying header card for the deck of student enrollment cards, but it also serves as the instrument for collecting teacher data which is more fully discussed under the "Teacher Subsystem" of this chapter.
2. An Attendance Center Header Card (AHC) is used as a "header" or identifying card for all CEC's and CHC's being submitted to DAVTE from a given attendance center. This card, as shown in Figure 15, is completed by the individual in the attendance center who has been charged with the responsibility for coordinating the data collection activities identified with the enrollment period.

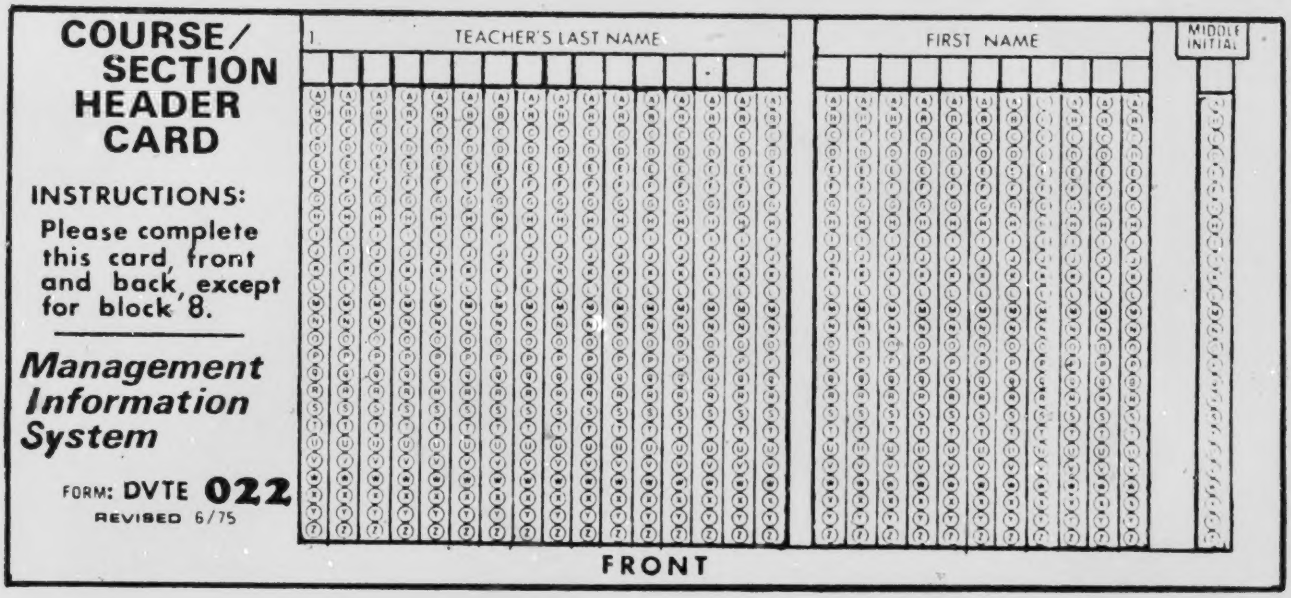
A step-by-step procedure for recording vocational course enrollment data for each student in the MIS, including teacher instructions, is contained in Appendix F.

As with the Student Information Card, optical scanning equipment is used to process all data submitted to DAVTE by local school districts during an enrollment period. Using the descriptive data contained on the Course/Section Enrollment Card, the student's record is located in the system and an enrollment subrecord, as defined in Table 12, is created for each course the student is taking. The three-digit MIS number of the course (see Appendix C) and the section number of the course are stored in fields 046 and 047 respectively. Field 045 identifies the semester and year that the course was taken. The last two characters of the field contain the last two digits of the current year while the first two characters of the field are encoded as follows:

01	Summer
02	Fall
03	Winter
04	Spring

The data stored in fields 048 through 053 are collected on a "turnaround" document to the attendance center which also serves as a verification report for the enrollment data previously submitted. Thus, after the data collected during the enrollment period has been scanned, subjected to logical editing routines, and posted to the student records, the "turnaround" report in Figure 16 is produced and sent to the appropriate attendance center. Note that the report is divided into two parts.

FIGURE 14 -- Front and Back View of a Course/Section Header Card



COURSE/ SECTION HEADER CARD

INSTRUCTIONS:

Please complete this card, front and back, except for block 8.

Management Information System

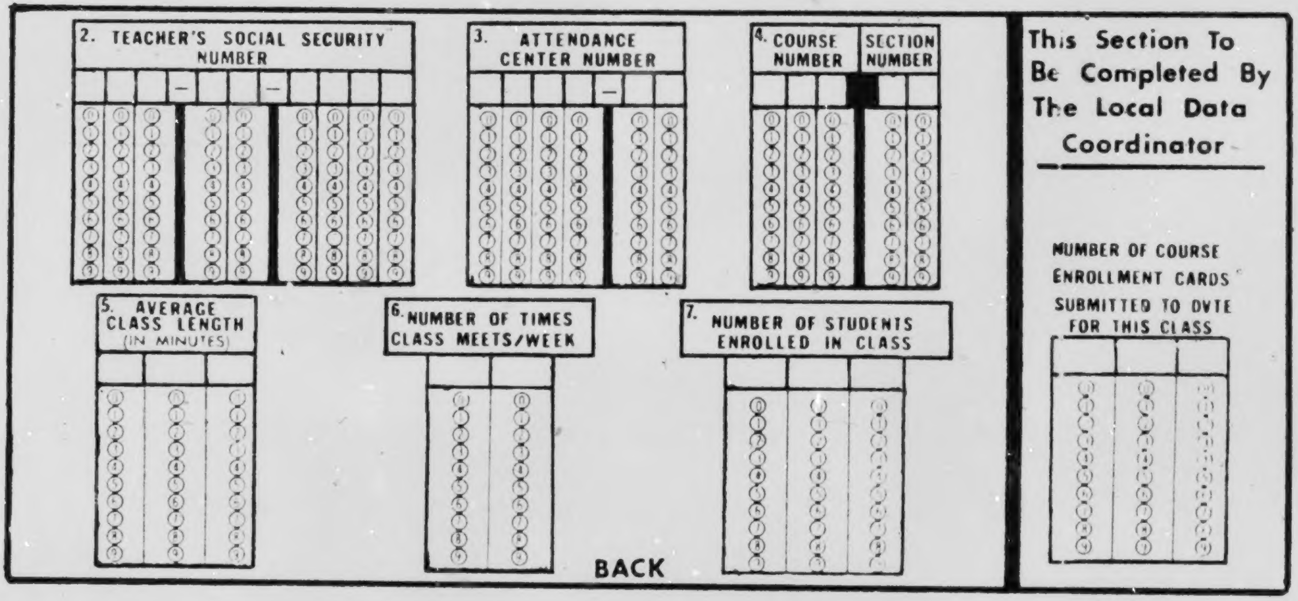
FORM: DVTE **022**
REVISED 6/75

1. TEACHER'S LAST NAME

FIRST NAME

MIDDLE INITIAL

FRONT



2. TEACHER'S SOCIAL SECURITY NUMBER

3. ATTENDANCE CENTER NUMBER

4. COURSE NUMBER

SECTION NUMBER

5. AVERAGE CLASS LENGTH (IN MINUTES)

6. NUMBER OF TIMES CLASS MEETS/WEEK

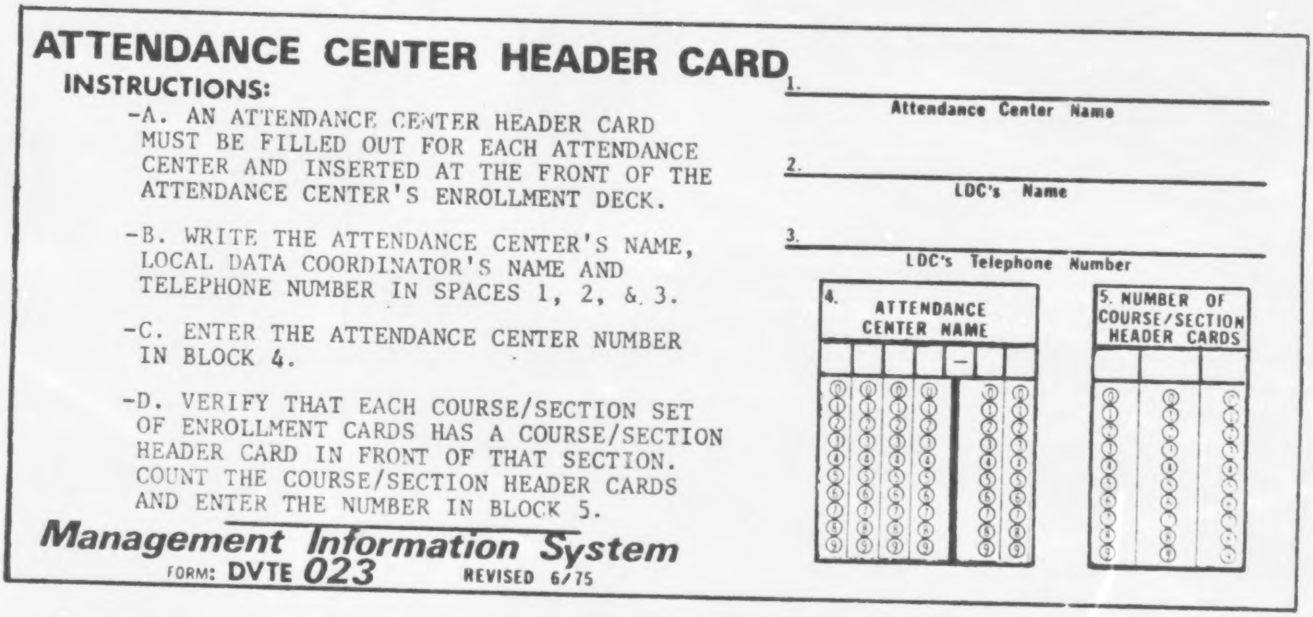
7. NUMBER OF STUDENTS ENROLLED IN CLASS

This Section To Be Completed By The Local Data Coordinator

NUMBER OF COURSE ENROLLMENT CARDS SUBMITTED TO DVTE FOR THIS CLASS

BACK

FIGURE 15 -- Example of an Attendance Center Header Card



ATTENDANCE CENTER HEADER CARD

INSTRUCTIONS:

-A. AN ATTENDANCE CENTER HEADER CARD MUST BE FILLED OUT FOR EACH ATTENDANCE CENTER AND INSERTED AT THE FRONT OF THE ATTENDANCE CENTER'S ENROLLMENT DECK.

-B. WRITE THE ATTENDANCE CENTER'S NAME, LOCAL DATA COORDINATOR'S NAME AND TELEPHONE NUMBER IN SPACES 1, 2, & 3.

-C. ENTER THE ATTENDANCE CENTER NUMBER IN BLOCK 4.

-D. VERIFY THAT EACH COURSE/SECTION SET OF ENROLLMENT CARDS HAS A COURSE/SECTION HEADER CARD IN FRONT OF THAT SECTION. COUNT THE COURSE/SECTION HEADER CARDS AND ENTER THE NUMBER IN BLOCK 5.

1. ______________________
Attendance Center Name

2. ______________________
LDC's Name

3. ______________________
LDC's Telephone Number

4. ATTENDANCE CENTER NAME

5. NUMBER OF COURSE/SECTION HEADER CARDS

Management Information System

FORM: **DVTE** *023* REVISED 6/75

FIGURE 16 -- TURNAROUND DOCUMENT FOR VERIFYING COURSE ENROLLMENT AND IDENTIFYING HANDICAPPED AND DISADVANTAGED SERVICES CODES

```
                              STATE OF ILLINOIS
               DEPARTMENT OF ADULT, VOCATIONAL AND TECHNICAL EDUCATION
                      VE059 STUDENTS' REIMBURSEMENT STATUS
                            FALL ENROLLMENT PERIOD
     -ATTENDANCE CENTER-                                                          -ADMINISTRATIVE CENTER-
NO:  0136-01                                                              NO:  0136-00
     NONAME HIGH SCHOOL                    MANPOWER REGION:  II                NONAME CU SCHOOL DISTRICT 427
     100 N FIRST ST                        COUNTY:  SANGAMON                   100 N FIRST ST
     SPRINGFIELD ILL    62777              DISTRICT:  427                      SPRINGFIELD ILL    62777
             217/782/0733                  SCHOOL TYPE:  SECONDARY                     217/782/0736
     LOCAL DATA COORDINATOR'S NAME                                             SUPERINTENDENT'S NAME

COURSE: 050  BASIC AGRICULTURE             DAVTE COURSE TITLE: (BAS AG 1)      BASIC AGRICULTURAL I
SECTION: 02      TEACHER:  JAMES FARMER

  NOTE:  FOR YOUR SCHOOL THIS COURSE HAS BEEN APPROVED TO BE OFFERED FOR REIMBURSEMENT WITHIN THE FOLLOWING PROGRAMS
                001 AGRICULTURAL PRODUCTION                              002 ANIMAL SCIENCE
                004 AGRICULTURAL SUPPLY AND SERVICE
---PART 1---
REF NO  SOC SEC NO  --------NAME----------  BIRTH DATE  DEC PROG   CONDITION   SERVICE    EXCEPTION CODE

002601  360-43-2827 BARGER       SALLY   M  01-15-61     002                   (  )(  )(  )
002602  282-32-4453 BRUNK        LARRY   O  11-22-60     002          H1       (  )(  )(  )
002603  361-53-2882 CONNER       ELAINE  C  04-13-61     002                   (  )(  )(  )
002604  000-00-0000 ELY          JAMES   R  06-10-61     002                   (  )(  )(  )
002605  280-34-6601 FANDEL       VINCENT T  07-02-60     002                   (  )(  )(  )
002606  000-00-0000 FARMER       RICHARD S  09-05-60     002          H4       (  )(  )(  )
---PART 2---
REF NO  SOC SEC NO  --------NAME---------  BIRTH DATE  SERVICE ---INDICATE WHERE CORRECTION MADE---
                                                                (VE-059)  (VE-028)  DVTE-020 SUBMITTED
002607  921-  -1248 ADAMS        DEBBIE     05-12-61  (  )(  )(  ) (   )     (   )        (   )
002608  721-30-1691 HARRISON     SANDRA  W  02-14-61  (  )(  )(  ) (   )     (   )        (   )
COURSE/SECTION SUMMARY:  8 WAS THE NUMBER OF COURSE/SECTION ENROLLMENT CARDS SUBMITTED TO DAVTE
                         6 WAS THE NUMBER OF COURSE/SECTION ENROLLMENT CARDS THAT UPDATED STUDENTS' PERMANENT RECORDS
                         6  IS THE NUMBER OF STUDENTS TO BE REIMBURSED AS REPORTED IN PART 1
                         2  IS THE NUMBER OF STUDENTS THAT WILL NOT BE REIMBURSED AS REPORTED IN PART 2
```

Part 1 of the report is an alpha listing of all students who (1) completed a Course/Section Enrollment Card for the class in question and (2) an enrollment subrecord has been successfully created in the student's master record. For any student listed in Part 1 who had a handicapped or disadvantaged condition identified during the initial Declaration Period, this information is retrieved from the student's record and printed along with the other information on the student. If the student received added services to compensate for the handicapped/disadvantaged condition that would have otherwise prevented the student from participating in the class in question, then the service(s) provided to the student is coded into the appropriate columns on Part 1. The recognized services and corresponding codes for handicapped conditions are shown in Figure 11 while Figure 12 contains the recognized services for disadvantaged conditions. When the turnaround report is submitted to DAVTE, the handicapped/disadvantaged services codes are stored in the appropriate fields of the student's enrollment subrecord.

Part 2 of the report is an alpha listing of all students who submitted a Course/Section Enrollment Card for the class in question; however, the student's master record could not be found in the system. There are only two possible reasons for the situation. Either the student identifying data on the Student Information Card is different from the identifying data on the Course/Section Enrollment Card or else a student record was never created within the system. For such students to be included in reimbursement calculations, the appropriate corrections must be made so that an enrollment subrecord can be created. The last three columns of Part 2 encompass the alternatives for making the correction. If the identifying data on the CEC is in error, the correction is penciled in on the VE059 report. If the identifying data on the SIC is in error, then the correction is entered on the VE028 report which is a master listing of all student records from the attendance center which are on the system. In the event that the VE028 report did not show a record for the student, then the error correction procedure is to submit a SIC for the student in question. Appendix G contains a procedural guide for the LEA staff to use when verifying student enrollment data.

In order to compile data for certain federal reports and to remove graduating students' master records from the active MIS files, it is necessary at the end of the school year for the local district to record the status of each 12th-grade student. This is done on a VE030 Report, shown in Figure 17, which lists 12th-grade students alphabetically by attendance center. After the local school district completes the report and returns it to DAVTE, the data is processed for appropriate disposition of student records.

The data collected during the declaration period and subsequent enrollment periods not only provide the basis for computing the annual vocational reimbursement for local school districts, but also constitute much of the data needed to complete various local, state, and federal accountability reports. This encompasses

FIGURE 17 -- TURNAROUND DOCUMENT FOR RECORDING STATUS OF TWELFTH GRADE STUDENTS

STATE OF ILLINOIS
DEPARTMENT OF ADULT, VOCATIONAL AND TECHNICAL EDUCATION
VE030 STUDENT COMPLETION REPORT

-ATTENDANCE CENTER-
NO: 0136-01
NONAME HIGH SCHOOL
100 N FIRST ST
SPRINGFIELD ILL 62777
217/782/0733
LOCAL DATA COORDINATOR'S NAME

-ADMINISTRATIVE CENTER-
NO: 0136-00
NONAME CU SCHOOL DISTRICT 427
100 N FIRST ST
SPRINGFIELD ILL 62777
217/782/0736
SUPERINTENDENT'S NAME

THIS REPORT IS AN ALPHABETIZED MASTER LISTING OF ALL 12TH-GRADE STUDENTS IN YOUR ATTENDANCE CENTER WHO HAVE A PERMANENT RECORD ON THE MIS. PLEASE CHECK EACH STUDENT AS FOLLOWS:

***IF THE STUDENT HAS TRANSFERRED OR DROPPED OUT OF THE ATTENDANCE CENTER, DRAW A LINE THROUGH THE STUDENT'S NAME.

***IF THE STUDENT WILL NOT GRADUATE AT THE END OF THE SCHOOL TERM, MARK AN 'X' IN THE COLUMN LABELED "NOT GRADUATING."

***IF THE STUDENT WILL GRADUATE AT THE END OF THE SCHOOL TERM, PLEASE SELECT ONE OF THE FOLLOWING TO INDICATE THE STUDENT'S DEPARTURE STATUS.

**WILL GRADUATE WITHOUT COMPLETING A VOCATIONAL PROGRAM AND HAS NOT ACQUIRED MARKETABLE SKILLS--MARK AN 'X' IN THE COLUMN LABELED "NOVOC PROGRAM OR SKILLS."

**WILL GRADUATE WITHOUT COMPLETING A VOCATIONAL PROGRAM, BUT HAS ACQUIRED MARKETABLE SKILLS--MARK AN 'X' IN THE COLUMN LABELED "MARKETABLE SKILLS" AND CHECK THE DECLARED PROGRAM NUMBER FOR ACCURACY. IF THE MARKETABLE SKILLS WERE ACQUIRED IN A VOCATIONAL PROGRAM OTHER THAN WHAT IS LISTED, DRAW A LINE THROUGH THE INCORRECT NUMBER AND PRINT (IN INK) THE CORRECT VOCATIONAL PROGRAM NUMBER IMMEDIATELY ABOVE THE ERRONEOUS DATA.

**WILL GRADUATE AND HAS COMPLETED A VOCATIONAL PROGRAM--MARK AN 'X' IN THE COLUMN LABELED "PROGRAM COMPLETER" AND CHECK HIS/HER DECLARED PROGRAM FOR ACCURACY. IF THE DECLARED PROGRAM NUMBER IS WRONG, DRAW A LINE THROUGH THE INCORRECT NUMBER AND PRINT (IN INK) THE CORRECT VOCATIONAL PROGRAM NUMBER IMMEDIATELY ABOVE THE ERRONEOUS DATA.

--------NAME-----------			SOC SEC NO	SEX	DECLARED PROGRAM	NOT GRADUATING	NO VOC PROGRAM OR SKILLS	MARKETABLE SKILLS	PROGRAM COMPLETER
ASH	SAMUEL	B	234-78-8097	F	170--AUTO MECHANICS	( )	( )	( )	( )
AWE	PETER	A	000-00-0000	M	171--AIRCRAFT MAINTENANCE	( )	( )	( )	( )
CONNORS	JIMMIE	K	789-57-5768	M	219--COMBINED METAL TRADES	( )	( )	( )	( )
FAIR	JAMES	Y	234-56-4567	M	192--DRAFTING	( )	( )	( )	( )
FAIRMONT	PETER	B	768-87-5467	M	170--AUTO MECHANICS	( )	( )	( )	( )
HENRY	JAMES	F	987-23-2435	M	192--DRAFTING	( )	( )	( )	( )

a large portion of the end-of-year federal report and several of the required tables in the State Plan. Likewise, the data also provide information for many student supply reports that can be generated by the MIS for local and state vocational program planning purposes.

The Non-Public Supply Output File defined in Table 13 contains data on the number of people being trained for labor market entry in occupations which have a high degree of correlation to vocational education training programs. A survey form, a sample of which is contained in Appendix H, is used to collect supply data from non-public institutions identified in the Non-Public Institution File described in Table 5. This survey instrument, designed to be administered in the fall of the year, collects all of the data stored in Table 13. Fields 002, 005, 006, 007 and 008 correspond to columns 1, 3, 4, 5 and 6 of the survey form respectively.

TABLE 13

NON-PUBLIC SUPPLY OUTPUT FILE

Field	Length	Data Descriptor
001	3N	Non-Public Institution Number
002	6N	OE Program Number
005	2N	Number Training Programs Offered TY
006	2N	Number Training Programs Offered NY
007	5N	Anticipated Number of Completers TY
008	5N	Anticipated Number of Completers NY

The non-public supply data, when merged with supply data for a given locale, provide a more complete supply profile for establishing an interface with manpower demand data. However, it is recognized that several other contributors to supply (i.e., supply from adjacent states, in-plant training, etc.) are required to complete the total profile of personnel available for entrance into the labor market.

Teacher Subsystem

The teacher data collected on the Course/Section Header Card is scanned and stored in the Teacher File defined in Table 14. Fields 016, 018, and 005 through 008 contain descriptive teacher information

TABLE 14

TEACHER FILE

Field	Length	Data Descriptor
008	9N	Social Security Number
005	16AN	Teacher's Last Name
006	11AN	Teacher's First Name
007	1A	Teacher's Middle Initial
016	6N	Attendance Center Number
018	5N	Course/Section Number
009	3N	Average Daily Class Length-Minutes
010	2N	Number of Times Course Meets Per Week
011	3N	Number of Students Enrolled

that is used for communication and identification purposes. Fields 009 and 010 contain the necessary data to compute the total hours that a course meets, identify part-time and full-time teachers, and calculate the full-time teacher equivalency for the attendance center. Given the number of students enrolled in the course, field 011, teacher loads and student ratios can also be determined.

After the teacher data have been processed, the report illustrated in Figure 18 is returned to the school district for verification of the data collected. Although a vocational education personnel subsystem was not a formal objective of this research activity, the teacher data collected during the enrollment periods form the basis for such a system. Furthermore, the initial research for designing the student enrollment subsystem revealed that the Illinois Office of Education maintains a "Teacher Service Record" that could be entered via the teacher's social security number to provide the following additional information on each vocational teacher:

1. Marital Status
2. Sex
3. Birth Date
4. Type of Certificate
5. Annual Salary
6. Number Months Employed
7. Percent of Full-Time Employment
8. Years of Teaching Experience In:
    (A) District
    (B) Illinois
    (C) Out-of-State
9. Institution Conferring Bachelor's Degree
10. Highest Earned Degree
11. Institution Conferring Graduate Degree
12. Current Teaching Position or Administrative Title
13. Main Teaching Assignment or Program Area
14. Secondary Teaching Assignment or Program Area
15. Grade Level of Assignment.

Since one of the ultimate goals of the MIS is to provide DAVTE with teacher information for reporting purposes and local school districts with a data source on vocational teachers, a supplemental teacher data collection document was designed and incorporated into the teacher verification report procedure.

FIGURE 18 -- ALPHA LISTING OF TEACHERS WITHIN AN ATTENDANCE CENTER PROVIDING INSTRUCTION IN ONE OR MORE REIMBURSABLE VOCATIONAL COURSES

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                                    STATE OF ILLINOIS
                     DEPARTMENT OF ADULT, VOCATIONAL AND TECHNICAL EDUCATION
                             VE024 TEACHER VERIFICATION REPORT
         -ATTENDANCE CENTER-
NO:  0136-01                                                                 -ADMINISTRATIVE CENTER-
     NONAME HIGH SCHOOL                                                 NO:  0136-00
     100 N FIRST ST                         MANPOWER REGION:  II             NONAME CU SCHOOL DISTRICT 427
     SPRINGFIELD ILL     62777              COUNTY:  SANGAMON                100 N FIRST ST
            217/782/0733                    DISTRICT:  427                   SPRINGFIELD ILL     62777
     LOCAL DATA COORDINATOR'S NAME          SCHOOL TYPE:  SECONDARY                 217/782/0736
                                                                             SUPERINTENDENT'S NAME

      **THE FOLLOWING TEACHERS WERE IDENTIFIED AS PROVIDING INSTRUCTION IN ONE OR MORE REIMBURSABLE VOCATIONAL COURSES**

         TEACHER'S NAME                 SOCIAL       COURSE  SEC            COURSE            NUMBER OF  AVG CLASS    NO CLASSES
                                     SECURITY NO     NUMBER  NO             TITLE             STUDENTS   LENGTH       PER WEEK
 ALFRED          FRANK         A    486-74-3106     110    01 BASIC AGRICULTURE                 031      055 MINUTES     05
                                                    115    01 ANIMAL SCIENCE SPECIALTY          026      055 MINUTES     05
                                                    115    02 ANIMAL SCIENCE SPECIALTY          028      055 MINUTES     05
                                                    115    03 ANIMAL SCIENCE SPECIALTY          027      055 MINUTES     05
                                                    131    01 FARM RECORDKEEPING & ANALYSIS     016      055 MINUTES     05
 BOONER          JAMES         L    546-77-3310     300    01 GENERAL BUSINESS TRAINING         025      055 MINUTES     05
                                                    301    01 BOOKKEEPING III & IV              028      055 MINUTES     05
                                                    301    02 BOOKKEEPING III & IV              028      055 MINUTES     05
                                                    301    03 BOOKKEEPING III & IV              028      055 MINUTES     05
                                                    301    04 BOOKKEEPING III & IV              028      055 MINUTES     05
 DELLA           ELLEN         M    111-22-3333     306    01 CLERICAL PRACTICE                 030      055 MINUTES     05
                                                    306    02 CLERICAL PRACTICE                 030      055 MINUTES     05
                                                    306    03 CLERICAL PRACTICE                 030      055 MINUTES     05
                                                    306    04 CLERICAL PRACTICE                 030      055 MINUTES     05
                                                    306    05 CLERICAL PRACTICE                 030      055 MINUTES     05
```

When this report is returned to the school district for verification, each teacher is requested to complete one of the two forms contained in Appendix I. The correct form to be completed by the teacher is determined as follows:

Form A -- The New Personnel Information Form is designed to be completed by vocational personnel who are new to the attendance center, as well as to personnel who were working in the attendance center last year but were not a part of a reimbursed vocational program during the school year.

Form B -- The Education and/or Experience Update Form is designed to be administered to all vocational program personnel who were working in reimbursed vocational education programs at the attendance center during the previous school year.

The data supplied on these forms, teacher data collected during the enrollment periods and data available from the Teacher Service Record constitute an extensive data base for designing a viable vocational education personnel subsystem. It is anticipated that when this system is developed, analyzed data can be supplied to the local schools concerning availability of vocational teachers, provide characteristics of vocational personnel, forecast supply and demand information needed by teacher training institutions, and project the content needs of teacher in-service programs.

Manpower Demand Subsystem

Significant changes in education and manpower development have occurred during the past four years. The availability of sound projections of regional labor market demands are critical to the development of all manpower programs. In an attempt to provide detailed projections of occupational manpower demands utilizing the best available methodology for the State and its constituent manpower planning regions, an inter-agency study was undertaken by the Governor's Office of Manpower and Human Development, the Illinois Bureau of the Budget, the Department of Adult, Vocational and Technical Education of the Illinois Office of Education, and the Illinois State Employment Service. To this end, projections were developed in a manner wholly consistent with the official demographic and economic projections of the State as published by the Illinois Bureau of the Budget for planning and budgetary purposes.

Detailed occupational projections were based on industry employment trends and occupational staffing patterns by industry. These employment projections are a part of a comprehensive demographic and economic projection system which provides an integrated set of projections for official use throughout the State. The economic projections are based on assumptions concerning the general behavior of the national economy, industrial trends at the national level and historic patterns of locational shifts and advantages within each industry. Regional industry projections are based on responses by local establishments to complex factors inside and outside the region. Internal factors relate to output that is needed to meet local needs. External factors relate to market demands and other factors outside the region which create employment requirements on the local industries. The projections represent long-term trends and do not take into account major openings or closings of establishments which may occur as unique events.

The industry occupational matrix used to calculate the occupational projections involves the application of occupational coefficients to employment totals for specific industries. Total employment for a specific occupation in a region is the sum of the number of jobs in that occupation for all industries in the region. The regions utilized in the development of the occupational projections were defined so as to conform with the operating jurisdictions of the manpower planning and development agencies. These regions generally conform to macro-labor market areas as defined by commutation patterns, retail trade and service patterns, communication patterns and other recognized regional characteristics.

The original data matrices were based on special tabulatings of 1970 Census data for Illinois. Modifications of the data were made by the U.S. Bureau of Labor Statistics, the Illinois Bureau of Employment Security and the Illinois Bureau of the Budget. The adjusted industry-occupational matrices reflect the unique distribution of 421 occupations within 201 industries in the various regions in Illinois.

For each occupation or occupational category enumerated in Appendix J, corresponding manpower data are stored in the Demand File described in Table 15. Manpower demand data are compiled and stored for each of the 19 manpower planning regions in the State of Illinois (See Figure 4). Field 001 in Table 15 contains the regional identifier with data for the entire state identified as a twentieth region. The occupational code and title in fields 002 and 003 are standardized terms and numbers recognized by all state agencies in Illinois. Field 005 identifies the current number of employees in the occupation while fields 004 and 006 identify the number of employees five years back and the projected number of employees five years into the future.

TABLE 15

MANPOWER DEMAND FILE

Field	Length	Data Descriptor	Field	Length	Data Descriptor
001	2N	Region Number	013	8N	TY+2 Demand
002	8N	Occupational Code	014	8N	TY+2 Expansion
003	32AN	Occupational Title	015	8N	TY+2 Replacement
004	8N	TY-5 Employment	016	8N	TY+3 Demand
005	8N	TY Employment	017	8N	TY+3 Expansion
006	8N	TY+5 Projected Employment	018	8N	TY+3 Replacement
007	8N	TY Demand	019	8N	TY+4 Demand
008	8N	TY Expansion	020	8N	TY+4 Expansion
009	8N	TY Replacement	021	8N	TY+4 Replacement
010	8N	TY+1 Demands	022	8N	TY+5 Demand
011	8N	TY+1 Expansion	023	8N	TY+5 Expansion
012	8N	TY+1 Replacement	024	8N	TY+5 Replacement

The current manpower demand for the occupation is contained in field 007. This number is also broken down into expansion needs (i.e., new openings resulting from growth) and replacement needs (i.e., openings resulting from death, retirement, etc.) which are stored in fields 008 and 009 respectively. Fields 010, 011 and 012 contain the same pattern of information as fields 007, 008 and 009 except that the data are projected for one year into the future. Likewise, field combinations 013 through 015, 016 through 018, 019 through 021, and 022 through 024 contain projected annual manpower demand data for two, three, four and five years in the future.

The data stored in Table 15 reflect the official State of Illinois manpower demand projections. To render the data applicable for planning vocational education programs, it must be identified with and distributed among OE program titles. Table 16 defines the manpower demand recast matrix file that is used to accomplish this task. Fields 001 and 002 of Table 16 contain the same data as fields 001 and 002 of Table 15, respectively. The first subrecord area is used to delineate the manpower demand identified with each occupation into the appropriate figures that might be applicable to vocational education. For example, if the manpower demand for Sales Engineers is "X" and data are available that reveal at least 60 percent of the openings in Sales Engineers require a college degree, then realistically, only 40 percent of "X" would pertain to vocational students planning to terminate their formal education after completion of high school.

TABLE 16

MANPOWER DEMAND RECAST MATRIX FILE

Field	Length	Data Descriptor
001	2N	Region Code
002	8N	Occupational Code
		1st Subrecord Area
007	8N	Recast Occupational Code
003	32AN	Recast Occupational Title
008	3N	Distribution Percentage
		2nd Subrecord Area
	6N	
004	6N	OE Program Number
005	4N	Public Distribution Percentage
006	4N	Non-Public Distribution Percentage
009	3N	Secondary Distribution Percentage
010	3N	Post-Secondary Distribution Percentage

Hence, a modified code and title is assigned to Sales Engineers and stored in fields 007 and 003 of Table 16. The allocated percentage applicable to vocational education (i.e., forty percent in the example above) is stored in field 008. If the nature of the occupation is such that vocational training is not applicable, then the allocated percentage is zero and no subrecord is created for the occupation in question. Likewise, a percentage of several different occupations can all be combined under a new title as an entity within itself. Appendix K contains a listing of recast occupational titles and allocation percentages; however, considerable work needs to be undertaken with respect to the allocation coefficients.

The second subrecord area is used to distribute the recast occupational manpower demand among the appropriate OE training programs. Field 004 contains the OE code number for each OE program that cross-walks to the occupation. The OE cross-walk enumerated in Appendix K is patterned after "Tomorrow's Manpower Needs Supplement 3 (Revised)." Fields 005 and 006 in Table 16 provide the system with the capacity to take the total manpower demand identified with a recast occupation and associate a predetermined percentage of it with the public sector of the vocational training program in question while associating a second predetermined percentage of it with the non-public sector of the same vocational training program. Furthermore, fields 007 and 010 enable the system to distribute the manpower demand identified with the public sector training programs according to secondary and post-secondary emphasis. Hence, the demand component can take manpower data and adjust it to apply exclusively to secondary public schools by eliminating:

1. Demand met through any form of training not classified as vocational education
2. Demand met through non-public vocational training programs
3. Demand met through post-secondary public vocational training programs.

Likewise, the system can adjust the data to apply only to post-secondary programs, non-public programs, or any combination thereof. Unfortunately, the research effort reveals that insufficient data is currently available to establish the coefficients for fields 005, 006, 009 and 010. In fact, the distribution percentage listed in Appendix K represents a composite percentage for all four fields and, as with the allocation percentage, considerable work needs to be undertaken to refine the distribution percentage. At best, the percentage listed should be regarded as nothing more than a guesstimate based on a DOT conversion table.

Based on the assumption that continuing research efforts will eventually yield viable and reliable coefficients for distributing occupational manpower demand to OE Programs, the system has been designed to produce several state and regional manpower reports. One of particular importance is the supply/demand profile report illustrated in Figure 19. The purpose of this report is not to subtract supply numbers from demand numbers or vice versa, but rather to provide a profile of each which will facilitate the identification of any trends or relationships that may exist between the two.

FIGURE 19 -- MANPOWER SUPPLY AND DEMAND PROFILE REPORT

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                                         STATE OF ILLINOIS
                          DEPARTMENT OF ADULT, VOCATIONAL AND TECHNICAL EDUCATION
                        VE051 OCCUPATIONAL MANPOWER REQUIREMENTS/TRAINING OUTPUT REPORT
        -ATTENDANCE CENTER-
NO:  0136-01  NONAME HIGH SCHOOL                                            -ADMINISTRATIVE CENTER-
     LOCAL DATA COORDINATOR'S NAME                                   NO:  0136-00  NONAME CU SCHOOL DISTRICT 427
************************************************************* PART I********************** SUPERINTENDENT'S NAME
                                                                                         *****************************************
     PROJECTED JOB OPENINGS IN REGION 11 FOR OCCUPATIONS  I      ANTICIPATED COMPLETIONS FOR NON-PUBLIC SCHOOLS:
     RELATED TO AGRICULTURAL PRODUCTION                   I      CURRENT LEA FALL ENROLLMENTS; LAST YEAR'S TOTAL
                                                          I      ENROLLMENTS AND REPORTED COMPLETIONS FOR REGION 11
  **REGIONAL TOTALS**                                     I      IN PROGRAMS CLUSTERED UNDER AGRICULTURAL PRODUCTION
                                                          I
    TOTAL EMPLOYMENT IN 1970        1410                  I**NON-PUBLIC**
    PROJECTED EMPLOYMENT IN 1975    1650                  I  ANTICIPATED FY75 COMPLETIONS       16
    PROJECTED EMPLOYMENT IN 1980    1905                  I  ANTICIPATED FY76 COMPLETIONS       18
                                                          I
  **ANNUAL PROJECTED INCREASES**                          I**LOCAL EDUCATION AGENCIES**
                                1975      1976     1977   I
    EXPANSION NEEDS               25        22       20   I  **ATTENDANCE CENTER TOTALS**
    REPLACEMENT NEEDS             25        25       24   I    FY74 FALL ENROLLMENTS              FY75 ANNUAL ENROLLMENTS
    TOTAL INCREASE                50        47       44   I                9TH GRADE      0                  9TH GRADE   0
                                                          I               10TH GRADE      0                 10TH GRADE   0
                                1978      1979     1980   I               11TH GRADE     17                 11TH GRADE  20
    EXPANSION NEEDS               20        19       18   I               12TH GRADE     22                 12TH GRADE  30
    REPLACEMENT NEEDS             20        19       18   I           POST-SECONDARY      0             POST-SECONDARY   0
    TOTAL INCREASE                40        38       36   I                    ADULT      0                      ADULT   0
                                                          I         TOTAL ENROLLMENT     39           TOTAL ENROLLMENT  50
  **THE FOLLOWING VOCATIONAL PROGRAMS ARE REGARDED BY AVTE I       REPORTED COMPLETIONS     18
    TO BE IN THE CLUSTER UNDER AGRICULTURAL PRODUCTION**  I
                                                          I  **ADMINISTRATIVE CENTER TOTALS**
        002 ANIMAL SCIENCE                                I    FY74 FALL ENROLLMENTS              FY75 ANNUAL ENROLLMENTS
        003 PLANT SCIENCE                                 I                9TH GRADE      0                  9TH GRADE   0
                                                          I               10TH GRADE      0                 10TH GRADE   0
                                                          I               11TH GRADE     17                 11TH GRADE  20
                                                          I               12TH GRADE     22                 12TH GRADE  30
                                                          I           POST-SECONDARY      0             POST-SECONDARY   0
                                                          I                    ADULT      0                      ADULT   0
                                                          I         TOTAL ENROLLMENT     39           TOTAL ENROLLMENT  50
                                                          I       REPORTED COMPLETIONS     18
                                                          I
                                                          I  **REGIONAL TOTALS**
                                                          I    FY74 FALL ENROLLMENTS              FY75 ANNUAL ENROLLMENTS
                                                          I                9TH GRADE      0                  9TH GRADE   0
                                                          I               10TH GRADE     12                 10TH GRADE   0
                                                          I               11TH GRADE    172                 11TH GRADE 210
                                                          I               12TH GRADE    165                 12TH GRADE 180
                                                          I           POST-SECONDARY     20             POST-SECONDARY  18
                                                          I                    ADULT      0                      ADULT   0
                                                          I         TOTAL ENROLLMENT    369           TOTAL ENROLLMENT 408
                                                          I       REPORTED COMPLETIONS    175
                                                          I
*********************************************************** ****************************************************************
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                        FIGURE 19 CONTINUED -- MANPOWER SUPPLY AND DEMAND
                                                PROFILE REPORT
*************************************************************PART II*************************************************************

    THE PROGRAMS LISTED BELOW ARE THOSE OFFERED WITHIN THE CLUSTER UNDER AGRICULTURAL PRODUCTION
    IN REGION 11 AS SUMMARIZED ON PAGE 1 OF THIS REPORT.

    **VOCATIONAL PROGRAM:  002 ANIMAL SCIENCE                   **OFFERED IN 6 ADMINISTRATIVE CENTERS IN YOUR REGION

        --ATTENDANCE CENTER TOTALS--           --ADMINISTRATIVE CENTER TOTALS--                --REGION 11 TOTALS--
           FY74               FY75                 FY74                 FY75                    FY74             FY75
    ANNUAL ENROLLMENTS   FALL ENROLLMENTS    ANNUAL ENROLLMENTS    FALL ENROLLMENTS    ANNUAL ENROLLMENTS FALL ENROLLMENTS
           9TH       0      9TH       0             9TH       0       9TH       0             9TH       0   9TH       0
          10TH       0     10TH       0            10TH       0      10TH       0            10TH       0  10TH       0
          11TH      17     11TH      20            11TH      17      11TH      20            11TH     112  11TH     120
          12TH      22     12TH      30            12TH      22      12TH      30            12TH      65  12TH      70
           P/S       0      P/S       0             P/S       0       P/S       0             P/S      10   P/S       0
         ADULT       0    ADULT       0           ADULT       0     ADULT       0           ADULT       0 ADULT       0
         TOTAL      39    TOTAL      50           TOTAL      39     TOTAL      50           TOTAL     187 TOTAL     190
   COMPLETIONS      18                      COMPLETIONS      18                      COMPLETIONS      80

    **VOCATIONAL PROGRAM:  003 PLANT SCIENCE                    **OFFERED IN 4 ADMINISTRATIVE CENTERS IN YOUR REGION

        --ATTENDANCE CENTER TOTALS--           --ADMINISTRATIVE CENTER TOTALS--
           FY74               FY75                 FY74                 FY75                    FY74             FY75
    ANNUAL ENROLLMENTS   FALL ENROLLMENTS    ANNUAL ENROLLMENTS    FALL ENROLLMENTS    ANNUAL ENROLLMENTS FALL ENROLLMENTS
           9TH       0      9TH       0             9TH       0       9TH       0             9TH       0   9TH       0
          10TH       0     10TH       0            10TH       0      10TH       0            10TH      12  10TH       0
          11TH       0     11TH       0            11TH       0      11TH       0            11TH      60  11TH      90
          12TH       0     12TH       0            12TH       0      12TH       0            12TH     100  12TH     110
           P/S       0      P/S       0             P/S       0       P/S       0             P/S      10   P/S      18
         ADULT       0    ADULT       0           ADULT       0     ADULT       0           ADULT       0 ADULT       0
         TOTAL       0    TOTAL       0           TOTAL       0     TOTAL       0           TOTAL     182 TOTAL     218
   COMPLETIONS       0                      COMPLETIONS       0                      COMPLETIONS      95
```

The left half of Part I of the report contains a six-year profile of the manpower demand situation for a given occupational area in the manpower planning region in which the school is located. The right half of Part I provides a profile of supply for the same occupational area. A two-year projection of non-public supply for the entire region is listed at the top of the column followed by the supply data profile for public schools. Since the demand data encompasses an entire region, the public supply data is produced not only for the attendance center and school district in question, but also as an accumulated total for all school districts in the manpower planning region. Part II of the report is a breakdown of the supply enrollment by OE program for the attendance center, school district, and region as a whole. The report is generated in the fall and disseminated to the local school districts for use in preparing their annual vocational education program plans.

CHAPTER IV

RESULTS, RECOMMENDATIONS AND CONCLUSIONS

The various subsystems of the Management Information System, as described in Chapter III, have undergone extensive field-testing throughout the duration of the research activity. Initially, three counties situated in the southwestern part of Illinois were selected as test sites for the project. The counties included Clinton, Madison and St. Clair and constituted an area bounded on the west by the Mississippi River, which separates it from St. Louis, Missouri, and the surrounding area. The target area was approximately 100 miles from the project center at Springfield, Illinois, and was chosen as the initial target area for implementation due to the following reasons:

1. The target area presented a situation wherein a bi-state labor market area exists with fluctuating employment and manpower changes.
2. The three counties represented the major portion of the Illinois section of the St. Louis SMSA. In addition, the test site encompasses five main urban locales.
3. The target area, having more than 25,000 students in occupational education-related programs, presented an interesting combination of inner city, rural and urban populations representing a wide range of minority populations.
4. The target area presented a realistic blending of industry and agricultural-related occupations with the current industrial composition in the SMSA comparable to the composition of northern Illinois.
5. There are approximately 30 secondary schools in the four-county area, one Area Vocational Center, and two community colleges.

The initial field-test was directed toward assessing the feasibility of collecting data for the student enrollment subsystem via optical scanning cards. Table 17 contains an analysis of the errors found on Student

TABLE 17

ANALYSIS OF ERRORS ON STUDENT INFORMATION CARDS

Data Items	No. of Items Processed	No. of Items In Error	No. of Items Corrected	No. of Items Not Corrected	% Uncorrectable Errors
Student's First & Last Name	24,471	566	412	154	0.63
Student's Middle Initial	24,471	3,947	793	3,154	12.88
Social Security Number	24,471	410	137	273	1.12
Date of Birth	24,471	1,164	940	224	0.92
Sex	24,471	64	58	6	0.02
Grade Level	24,471	202	17	185	0.76
School Number	24,471	264	248	16	0.07
Vocational Program	24,471	159	102	57	0.23
Student Status	24,471	529	26	503	2.06
Unscorable		13		13	0.05
Total	244,710	7,318	2,733	4,585	

Information Cards submitted during the initial declaration period. Based on this analysis, the SIC was revised to delete the student status and add the veteran's status block. Editing of the student's middle initial was also dropped since the accuracy of the data is not critical.

Table 18 contains an analysis of the errors on cards submitted during the enrollment period. As a result of

TABLE 18

ANALYSIS OF ERRORS ON ATTENDANCE CENTER HEADER, COURSE/SECTION HEADER AND COURSE/SECTION ENROLLMENT CARDS

Data Items	No. of Items Processed	No. of Items In Error	No. of Items Corrected	No. of Items Not Corrected	Uncorrectable Errors
---- Attendance Center Header Card ----					
School Number	29	1	1	0	0.00
No. of Course Header Cards	29	12	12	0	0.00
No. of Course Enrollment Cards	29	4	4	0	0.00
---- Course/Section Header Card ----					
School Number	1,161	5	1	4	0.34
Course Number	1,161	2	1	1	0.09
No. of Course Enrollment Cards	1,161	18	12	6	0.52
Total No. of Course Enrollees	1,161	37	29	8	0.69
Daily Class Length	1,161	71	45	26	2.24
No. of Classes Per Week	1,161	27	8	19	1.64
Social Security Number	1,161	40	6	34	2.93
Teacher's Last Name	1,161	34	10	24	2.07
Teacher's First Name	1,161				
Teacher's Middle Initial	1,161	311	4	307	26.44
Unscorable		2	2	0	0.00
---- Course/Section Enrollment Card ----					
Student's Last Name	31,061	623	354	269	0.87
Student's First Name	31,061				
Student's Middle Initial	31,061	3,172	636	2,536	8.16
Social Security Number	31,061	1,163	299	864	2.78
Student's Future Plans	31,061	1,961	15	1,946	6.27
School Plans	31,061	1,092	11	1,081	3.48
School Number	31,061	3,413	1,250	2,163	6.96
Course Number	31,061	641	600	41	0.13
Unscorable		20	20	0	0.00
Total	260,185	12,649	3,320	9,329	

the test, it was determined that the data item labeled "Number of Course Enrollment Cards" on the Attendance Center Header Card served no real function and so it was deleted. The Course/Section Header Card analysis supported the decision to eliminate the edit routine on middle initials and indicated that the course number needed to be supplemented with a section number. Otherwise, the CHC remained unchanged.

The analysis of the Course/Section Enrollment Card revealed several changes that were in order. In addition to supporting the decision to terminate the middle initial edit procedure and supplement the course number with a section number, it was also determined that data items on the student's future plans and school plans should be deleted from the card. The social security number, which was originally part of the "key" used to identify student records proved impractical from the standpoint of too many missing numbers in the test area and from the creation of duplicate keys when the number was computer generated. As such, the system has been changed to remove the social security number as a key element, although it has been left on the card for use at the option of the school, and date of birth now forms one of the integral elements of the key.

Given the success experienced in the initial field-test, the decision was made to expand the operation of the system during the 1975-1976 school year. Since the manpower demand subsystem was one of the major aspects of the system to be tested, it was deemed desired to encompass a manpower planning region if possible. Hence, 12 additional counties spiraling outward from the initial test site were identified. Due to the developmental status of the system, school districts in the 12 new counties were added on a voluntary basis. Of the 73 schools invited to participate in the Management Information System Project during 1975-1976, 72 accepted the invitation and volunteered to be a field-test site. In addition, three Area Vocational Centers volunteered to participate. The 75 schools (see Appendix L) represented 92 attendance centers and encompassed approximately 80,000 students.

In preparation for implementing the system, the Superintendent of each school district was asked to appoint someone within the district to serve as the MIS contact person. This individual hereinafter referred to as the Local Data Coordinator (LDC) coordinates all data collection, error correction and report dissemination activities throughout the district. In many districts, the vocational director was designated as the LDC. However, some of the districts elected to designate principals, guidance counselors, key teachers, department heads, business managers and even the superintendent, in two instances, as the LDC.

All Local Data Coordinators were assembled during the summer prior to the start of the 1975-1976 school year and given a four-day workshop on the operation of the system. Actually, two workshops were conducted due to summer vacation plans and the number of LDC's that had to be trained. At the close of both sessions, each participant was asked to respond to six questions that pertained to the design and operation of the system. The composite results obtained are as follows:

Question 1 -- Do the system reports address your needs for management information?

1. Vast majority of attendees at both sessions felt system as explained was responsive to their requirements.

2. Some reservation expressed in both sessions. A "wait and see" attitude until system is operational.

Question 2 -- What do you perceive are the benefits of the MIS for local school administrators?

1. The following benefits were listed:
    - Better program planning, analysis and evaluation
    - Less time required for reporting at local level
    - Improved accuracy
    - More information available at local level

2. The following reservations were expressed:
    - The MIS will be extremely beneficial if DAVTE fully commits to it as the only system.
    - Limited based on present knowledge
    - Won't know until have a chance to work with system

Question 3 -- Do the data requirements of the MIS impose any potential problems in (1) data collection and error correction, (2) reimbursement reconciliation, or (3) program planning?

Although the majority of participants at each session indicated no major problems, several significant comments were noted in each of the above areas. Following is a list of these comments:

1. Data collection and error correction
    - MIS will require full vocational teacher cooperation
    - Tremendous amount of paper work and added responsibility for vocational teachers which will not be willingly accepted
    - Turnaround time on errors may be a problem
    - All students may not fill out cards
    - Mobile population may cause problems in data accuracy
    - No social security number for students and school transfers appears to be a problem

2. Reimbursement reconciliation
    - Typographic errors may cause delay in receiving funds
    - Seems unfair to reimburse only chosen courses when other vocational courses are better for preparing students for the job market
    - How will reimbursement for handicapped students be computed when an area center does not supply supplemental service

3. Program planning
    - Seems to lead to more state controls and the preliminary development of a statewide employment agency
    - MIS will force counselors to become involved in reconciling programs with demand and consequent student placement in proper courses
    - Will program development be supported by state funding
    - Regional and state manpower needs haven't been considered previously

Question 4 -- What additional enhancements or changes would you suggest to improve (1) data collection, (2) information content and/or (3) management reports?

The consensus at both sessions appeared to be "we don't have enough information to comment at this time." Several suggestions were made, however, that have merit.

1. Data collection
    - Do not schedule data collection at the end of the 1st nine-week period
    - Coordinate all MIS and DAVTE submission dates

2. Information content
    - Remove Superintendent of Educational Service Regions as middleman in One- and Five-Year Plans and funding
    - Provide a county-level breakdown of job demand
    - Include ability to handle transfers

3. Management reports
    - Get reports to field in time for use
    - Eliminate many of the prescribed reports. Too much for local school use
    - Experience with operations of MIS will dictate additional reporting enhancements

Question 5 -- How may we improve future MIS training sessions relative to (1) method of presentations, (2) level of detail, (3) handout materials and/or (4) length of session?

Again the consensus at both sessions was very favorable. The more relevant suggestions and criticisms are recapped as follows:

1. Method of presentation
   - I have been with the MIS since the beginning. I would have been more enthusiastic at the beginning if this kind of presentation could have been made.
   - Open training sessions to guidance counselors and vocational educators
   - Well presented and very effective
   - Allow more input by attendees
   - The first ½ day could have been given in 15 minutes
2. Level of detail
   - Level of detail was very appropriate for an orientation
   - Too basic
   - Beginning session too elementary
3. Handout materials
   - Very appropriate to material being discussed
   - Very thorough
   - Too many at one time
   - Good, clear examples
4. Length of session
   - Shorten and include more breaks
   - Too much material covered in first day

Question 6 -- Are there any additional comments or suggestions you would care to make regarding the design and/or operation of the MIS?

The overall reaction of both groups to the material presented was positive. Many participants appear to reserve judgment until they have had the opportunity to use the system. This is, of course, a normal reaction to a project with the potential impact of the MIS. Following are comments representative of both sessions:

- If the MIS works as it should, it should be extremely valuable to administrators and perhaps can be a model for other state IOE operations
- Impossible until I see it operate
- Continue to emphasize output as opposed to input
- Improve system feedback in future
- We must have assurance that we will not be violating the Federal Statutes pertaining to disclosure of information.
- The MIS may tie schools down to a set vocational course offering
- MIS appears to be a refreshing change in DAVTE reporting
- A great advantage to educators if the time is taken to use it properly
- Since students have more opportunity for jobs if they are mobile, why don't you provide projections on the state level along with those on the regional and attendance center levels?

Only three of the participants expressed negative comments on the Management Information System. Although many adopted a "wait and see" attitude, reserving comment until the system had gone through several cycles, the overwhelming majority of the participants expressed very positive comments regarding the potential of the MIS to support their vocational education activities.

In addition to the four-day workshop conducted for LDC's from local school districts, a one-half day orientation session was provided to the entire professional staff of DAVTE. Six separate orientation sessions were conducted so that the number of participants per session could be kept under fifteen. Each participant was given a notebook during the session that contained copies of all data collection documents, procedural instructions and reports generated in the course of operating the MIS. The objective of the session was not only to describe the system, but more importantly, to educate the staff on what data were available within the system and to encourage the staff to use the data in executing their job responsibilities. At the close of each session, participants were given an evaluation questionnaire to take with them. Each person was encouraged to think about the system and what had been presented in the orientation session for two or three days before completing the questionnaire. The reaction of the professional staff, as expressed on the questionnaire, is summarized as follows:

Question 1 -- Do the reports from the system address your needs for management information?

1. 75% of the staff responded positively, 6% negatively and 19% were undecided.
2. Comments inserted on the questionnaire included:
   - There is a need for revision of the identification categories for the handicapped. We need to see if there is a way to tie identification categories for handicapped and disadvantaged with services.
   - Not really. My needs in delivering inservice education necessitate data on needs/wants, characteristics of persons to be served (practicing educators in LEA's) and aid in dissemination of inservice information via mailing lists.
   - Partially -- the design of the system and its layout appear to be impressive. I truly question the ability of a staff member to get data and factual information from the system. The red tape will show up when facts are needed.
   - Generally yes -- However, many times information by program area on a state-wide basis is needed. For example, how many programs are being conducted in electronics in the state, where are they, teachers' names, follow-up data, etc.? While this would not be needed in a regular report, we need to have access to it by individual program.

Question 2 -- What do you perceive are the benefits of the MIS in your area of responsibility?

- If services and identification criteria for handicapped and disadvantaged students are related, a great service will be given to federal, regional and local reporting.
- Obtaining of mailing labels for dissemination purposes.
- The data would be helpful in developing the Annual Descriptive Report.
- Will provide significant information that will make the program consultant more effective in assisting program planning, implementation and evaluation.
- Assist in working with LEA's on total occupational education program management strategies such as:
  1. Student interest surveys
  2. Manpower Surveys
  3. Claims
  4. Inservice for administrators, teachers, guidance, etc.
  5. Preparation for on-site evaluations
  6. Placement
  7. Follow-up -- student and employers
  8. Budgeting
  9. Recommending approval
- Teacher identification breakdown by area and course.
- Reduction of paperwork for the large multi-unit campuses allowing for additional thrust to quality administration.
- Speed up program approval process and procedures.
- Streamline the reimbursement claim process.
- Should provide for a more productive use of time at both local and state level.
- More reliable and accurate information.
- Availability of needed information not heretofore available.
- Aid to schools in comparing their local status with the entire state.
- Aid to evaluation teams.
- Aid to Regional Directors in their work.

Question 3A -- What potential problems can you foresee with the data content of the MIS?

- The accuracy of the data will always be a concern. Demand data has a long way to go before it can be considered accurate and meaningful.
- Utilization and dissemination of all data regardless of whether it is favorable or unfavorable.
- Follow through by the LEA to provide accurate information. This will take articulation throughout the local education agencies.
- Administrative decision regarding who within DAVTE approves the information to be disseminated.
- Student's Rights and Privacy Act.

- OE Codes for programs, especially new or unusual programs.
- The data are applicable to present policies of DAVTE. What about its relevance after this year if changes are made in policies and/or procedures of the department?

Question 3B -- What potential problems can you foresee with the timing and structure of the reports generated by the system?

- 75% of the staff stated no problems.
- The success of the system will rest with the output ability. All too often the mechanical output can't keep pace with the demand.
- Need for extensive inservice to all persons using the information on interpretation, purpose, structure, etc.
- Possibility of the report formats being too complicated for extensive use in the school districts.

Question 3C -- What potential problems can you foresee in coordinating activities with local school administrators?

- 58% of the staff stated no problems.
- Any added cost to the current administrative requirements.
- Instructing schools on reporting procedures and motivating them to keep their records up-to-date.
- LEAs will complain of local administrative time and expense.

Question 3D -- What potential problems can you foresee in the utilization of the data for program planning?

- Not sure of the system to be used in disseminating data for state and local planning. Would like to see something on a quarterly basis with an accompanying interpretation of changes, trends, etc., by program areas.
- Most of our line item programs are controlled by the amount of funds, which have remained almost constant. The funding and the mandates of The Act affect our planning more than data generated at the local level.
- Ability to get the data in a short period of time when it is needed.
- Keeping the data current.
- Much inservice will be needed to teach the use of such data. Again, a person sold and dedicated with excellent articulation throughout the LEA.
- The ability of LEA personnel to effectively utilize data in program planning is still questionable. The payoff for local administrators to supply input will be the output they receive in turn. But if they can't use the data, then the novelty of the MIS will soon wear off.

Question 4 -- Are there any additional comments or suggestions you would like to make regarding the design and/or operation of the MIS?

- The MIS appears to be of direct and immense assistance to local administrators and to those with DAVTE who are directly involved in accountability reporting. However, any benefits of the system with respect to the professional development activities of DAVTE appear to be supplemental and far into the future.
- My greatest fear is that the MIS will begin to run and govern the system.
- Having worked with annual reports, I believe many inaccuracies have existed in reporting the following:
  Cooperative education students
  Consumer and homemaking
  Adult and post-secondary
  Special contracted programs
  I hope this system can overcome these inaccuracies.

- Instructions are extremely detailed and complicated -- maybe too much so -- to be of much use.

Overall, the comments on the questionnaires reflected a very positive attitude toward the objectives and purposes of the Management Information System. Overriding this positive feeling, however, was an apparent "wait and see" attitude. Hence, a two-hour interview was held with each of the seven sectional Directors of DAVTE to secure a consensus of opinion from their section relevant to the operation of the MIS. In the course of this interview process, the following potential benefits were identified that could be of significant value to DAVTE as a result of operationalizing the MIS throughout the State of Illinois:

1. Standardization of courses, and programs statewide coupled with statewide operation of the MIS would be of real benefit to Special Programs in relating supply/demand data to the development of new programs.

2. Demand data generated by the system might be of value if made available to prime sponsers of CETA programs.

3. The development of Teacher Supply/Demand data would aid the Professional and Curriculum personnel in planning and developing new curriculum.

4. Accurate computer generated reimbursement claims would greatly aid fiscal checkout and reimbursement procedures for vocational claims.

5. Accurate, unduplicated counts of program participants would aid Occupational Consultants in assisting local school administrators in planning improved and new program offerings.

Although some of the Directors expressed a concern that local schools may feel the state office is taking away some of their autonomy when the MIS is implemented, the reaction of the LEA's in the test site does not support this opinion.

Apart from the evaluation data secured from DAVTE staff and local education agencies, the operational aspects of the system were subjected to an extensive evaluation by MIS staff. Two of the biggest shortcomings identified in the system dealt with the accuracy of the documentation for existing programs and the lack of an Operations Manual for use by AVTE personnel. Both conditions are currently being corrected. An assessment of the operating components has pointed out very little need for change in data content of the files developed and utilized in the field-test area. However, the test area operation through two enrollment cycles has identified several changes that would improve both manual and automated system processes. The following list briefly describes the changes identified:

1. File Organization -- The student file is organized as an index sequential file which allows random access of records for addition, deletion or maintenance. In practice it was found, this organization was very inefficient with the masses of data generated by an enrollment cycle update. Reprogramming has already been accomplished to improve updating and additional changes will be made to reorganize this major file as a sequential one.

2. Editing -- The original system needed additional basic edits to improve the overall accuracy and completeness of the data. Work has already been completed to add new edit programs to the enrollment cycle and to improve the edits contained in other entry point programs.

3. Year End -- The system did not provide for normal end-of-year housekeeping on all data files. This capability has been added as a part of the changes now being developed.

4. Reimbursement -- Reimbursement data are totally dependent on the enrollment cycle to capture student data and special condition data that determine the reimbursement dollars an individual school is entitled to. This philosophy is still valid; however, the timing of the reimbursement cycle must be such to ensure that LEA's have time to review all enrollment data and correct errors prior to creation of the reimbursement file.

5. LEA Commitment -- Although the evaluation questionnaires indicated interest in and approval of the concepts of the MIS on the part of LEA's in the test area, the number of and nature of the errors generated by the test enrollment cycles points out a lack of commitment on the part of many individuals at the local level. This can be corrected, in part, through a greater awareness of a stronger commitment to the MIS from DAVTE administrators. The balance of the problem will have to be addressed through improved in-service activities.

In conclusion, the Management Information System can meet the design concepts initially specified for its operation. Its potential for aiding both local schools and state level managers and administrators is evident and well documented. The current estimate is that state-wide operation of the system as developed within the realm of this research effort would require a full-time staff of five plus the addition of two part-time employees to assist during peak enrollment periods. Likewise, the MIS Control Unit should not be a part of the

Research and Development Section if the system is to break free of its guise as a research exercise and become recognized as an active and vital management tool serving all of DAVTE and the local schools. Based on current cost estimates, the MIS could be operated with an annual budget under $300,000. It is felt that savings well in excess of this figure will be realized by LEA's throughout the state. Unfortunately, these savings are not all DAVTE dollars. A savings is expected to accrue to DAVTE through the utilization of MIS generated data; however, a dollar value can not be placed on these savings. It is very difficult to price intangibles such as improved program planning and development, more accurate enrollment data and unduplicated counts of vocational program participants, responsive curriculum revisions, current feedback on program completers and access to current and reliable data for planning and administering vocational education programs.

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APPENDIX A

VOCATIONAL PROGRAMS APPROVED AS ACTIVE TRAINING PROGRAMS IN THE STATE OF ILLINOIS

Office of Education Code No.	Occupational Program Titles	Funding Priority	MIS Program Number	Manpower Cluster No.
01.0100	Agricultural Production	C	001	01
01.0101	Animal Science	C	002	01
01.0102	Plant Science	C	003	01
01.0200	Agricultural Supply and Service	B	004	02
01.0201	Agricultural Chemicals	B	005	02
01.0300	Agriculture Mechanics	B	006	03
01.0400	Agricultural Products	C	007	04
01.0500	Ornamental Horticulture	B	008	05
01.0501	Arboriculture	B	009	05
01.0502	Floriculture	B	010	05
01.0503	Greenhouse Operations and Management	B	011	05
01.0504	Landscaping	B	012	05
01.0505	Nursery Operation and Management	B	013	05
01.0506	Turf Management	B	014	05
01.0600	Agricultural Resources	B	015	06
01.0603	Soil Conservationist	B	016	06
01.0605	Water Conservationist	B	017	06
01.0700	Forestry	C	018	07
01.0703	Logging	D	019	07
04.0100	Advertising Services	C	020	09
04.0200	Apparel and Accessories (Sales)	C	021	10
04.0300	Automotive Sales	C	022	11
04.0400	Finance and Credit	C	023	12
04.0500	Floristry (Sales)	C	024	13
04.0600	Food Distribution (Sales)	C	025	14
04.0700	Food Services (Sales)	C	026	15
04.0800	General Merchandise (Sales)	C	027	16
04.0900	Hardware, Building Materials (Sales)	C	028	17
04.1000	Home Furnishings (Sales)	C	029	18
04.1100	Hotel and Lodging Services	B	030	19
04.1200	Industrial Marketing (Sales)	C	031	20
04.1300	Insurance (Sales)	C	032	21
04.1400	International Trades (Sales)	C	033	22
04.1500	Personal Services (Sales)	C	034	23
04.1600	Petroleum (Sales)	C	035	24
04.1700	Real Estate (Sales)	C	036	25
04.1800	Recreation and Tourism Services	C	037	26
04.1900	Transportation (Sales)	C	038	27
04.2000	Retail Trade	C	039	28
04.3100	Wholesale Trade	C	040	29
04.9901	Small Business Management	C	041	30
04.9902	Distributive Education Marketing Cooperative	A	042	30
07.0101	Dental Assisting	A	043	31
07.0102	Dental Hygiene	A	044	31
07.0103	Dental Laboratory Technology	A	045	31
07.0201	Cytology	B	046	32
07.0202	Histology	B	047	32
07.0203	Medical Laboratory Assisting	A	048	32
07.0204	Hematology	B	049	32
07.0301	Nursing (Associate Degree)	A	050	33
07.0302	Practical Nursing	A	051	33
07.0303	Nurse Aide	B	052	33
07.0304	Psychiatric Aide	B	053	33
07.0305	Surgical Technician (Operating Room Technology)	A	054	33
07.0306	Obstetrical Technician	C	055	33
07.0307	Home Health Aide	C	056	33
07.0308	School Health Aide	C	057	33
07.0400	Rehabilitation Aide	A	058	34
07.0401	Occupational Therapy Aide	A	059	34
07.0402	Physical Therapy Aide	A	060	34
07.0403	Prosthetics	B	061	34
07.0404	Orthotics	B	062	34
07.0500	Radiologic Aide	A	063	35
07.0501	Radiologic Technology (X-Ray)	A	064	35

Office of Education Code No.	Occupational Program Titles	Funding Priority	MIS Program Number	Manpower Cluster No.
07.0502	Radiation Therapy Assisting	A	065	35
07.0503	Nuclear Medical Technology	A	066	35
07.0601	Ophthalmic Dispensing	B	067	36
07.0602	Orthoptics	B	068	36
07.0603	Optometrist Assisting	B	069	36
07.0701	Environmental Health Assisting	A	070	37
07.0702	Radiological Health Technology	A	071	37
07.0703	Sanitarian Assisting	B	072	37
07.0800	Mental Health Technology	B	073	38
07.0801	Mental Health Assisting	B	074	38
07.0802	Mental Retardation Aide	B	075	38
07.0900	Health Care Aide	B	076	39
07.0901	Electroencephalograph Technology	A	077	39
07.0902	Electrocardiograph Technology	A	078	39
07.0903	Inhalation Therapy	A	079	39
07.0904	Medical Assisting	B	080	39
07.0905	Central Supply Technology	C	081	39
07.0906	Health Aide	B	082	39
07.0907	Medical Emergency Technology	A	083	39
07.0908	Food Service Health Supervision	C	084	39
07.0909	Mortuary Science	C	085	39
07.0910	Pharmacy Aide	B	086	40
07.9911	Recreational Therapy Aide	B	087	40
07.9912	Geriatric Aide	B	088	40
07.9913	Medical Records	A	089	40
07.9914	Hospital Ward Clerk	B	090	40
09.0200	Home Economist Assisting	C	091	42
09.0201	Child Care	B	092	42
09.0202	Clothing, Management, Production and Services	C	093	42
09.0203	Food Management, Production and Services	B	094	42
09.0204	Home Furnishings, Equipment and Services	D	095	42
09.0205	Institution and Home Management Services	C	096	42
14.0102	Bookkeeping	C	097	43
14.0103	Cashiers	C	098	43
14.0104	Machine Operation	B	099	43
14.0105	Bank Tellers	C	100	43
14.0200	Business Data Processing Systems	A	101	44
14.0201	Computer and Console Operations	A	102	44
14.0202	Keypunch, Coding and Peripheral Equipment Operations	C	103	44
14.0203	Computer Programming	B	104	44
14.0204	Systems Analysis	A	105	44
14.0301	Duplicating Machine Operations	C	106	45
14.0302	File Clerking	C	107	45
14.0303	General Office Clerking	C	108	45
14.0401	Communication Systems Clerking	C	109	46
14.0402	Correspondence Clerking	C	110	46
14.0403	Mail and Postal Clerking	C	111	46
14.0404	Mail - Preparing and Mail - Handling Operations	C	112	46
14.0405	Messengers and Office Services	D	113	46
14.0406	Receptionist and Information Clerking	C	114	46
14.0501	Planning and Production Clerking	C	115	[illegible]
14.0502	Quality Control Clerking	C	116	[illegible]
14.0503	Shipping and Receiving Clerking	C	117	[illegible]
14.0504	Stock and Inventory Clerking	C	118	47
14.0505	Traffic, Rate, and Transportation Clerking	C	119	47
14.0601	Educational and Training Assisting	C	120	48
14.0602	Interviewers and Test Technology	C	121	48
14.0603	Personnel Assisting	C	122	48
14.0701	Executive Secretary Science	A	123	49
14.0702	Secretarial	B	124	49
14.0703	Stenography	B	125	49
14.0801	Administrative Assisting	C	126	50
14.0802	Budget Management Analysis	C	127	50
14.0803	Clerical Office Supervision	C	128	50

Office of Education Code No.	Occupational Program Titles	Funding Priority	MIS Program Number	Manpower Cluster No.
14.0804	Data-Method and System-Procedure Analysis	C	129	50
14.0805	Office Managers and Chief Clerking	C	130	50
14.0901	Clerk - Typist	B	131	51
14.0902	Typists	B	132	51
16.0101	Aeronautical Technology	B	133	53
16.0103	Architectural Technology	B	134	53
16.0104	Automotive Technology	B	135	53
16.0105	Chemical Technology	A	136	53
16.0106	Civil Technology	B	137	53
16.0107	Electrical Technology	B	138	53
16.0108	Electronic Technology	B	139	53
16.0109	Electromechanical Technology	B	140	53
16.0110	Environmental Control Technology	A	141	53
16.0111	Industrial Technology	B	142	53
16.0112	Instrumental Technology	B	143	53
16.0113	Mechanical Technology	B	144	53
16.0114	Metallurgical Technology	B	145	53
16.0115	Nuclear Technology	A	146	53
16.0116	Petroleum Technology	B	147	53
16.0117	Scientific Data Processing	B	148	53
16.0400	Office Related Technology	C	149	56
16.0601	Commercial Pilot Training	C	150	58
16.0602	Fire and Fire Safety Technology	B	151	58
16.0603	Forestry Technology	B	152	58
16.0604	Oceanographic Technology	B	153	58
16.0605	Police Science Technology	A	154	58
16.9901	Air Pollution Technology	A	155	95
16.9902	Water and Waste Water Technology	B	156	95
16.9903	Quality Control Technology	B	157	95
16.9904	Numerical Control Technology	A	158	95
16.9905	Optics Technology	B	159	95
16.9906	Plastics Technology	B	160	95
16.9907	Radio and Television Engineering Assisting	B	161	95
17.0100	Air Conditioning	B	162	59
17.0102	Heating	B	163	59
17.0103	Ventilating (Filtering and Humidifying)	B	164	59
17.0200	Appliance Repair	B	165	60
17.0201	Electrical Appliance Repair	B	166	60
17.0202	Gas Appliances Repair	B	167	60
17.0300	Automotive Services	A	168	61
17.0301	Body and Fender Repair	B	169	61
17.0302	Auto Mechanics	A	170	61
17.0401	Aircraft Maintenance	A	171	62
17.0402	Aircraft Operations	B	172	62
17.0403	Ground Operations	B	173	62
17.0600	Business Machine Maintenance	A	174	64
17.0700	Commercial Art	C	175	65
17.0701	Interior Decorating	C	176	65
17.0702	Window Display	B	177	65
17.0703	Product Designer	C	178	65
17.0801	Seamanship	D	179	66
17.0802	Ship and Boat Operation and Maintenance	B	180	66
17.0900	Commercial Photography	C	181	67
17.1000	Construction and Building Trades	B	182	68
17.1001	Carpentry	C	183	68
17.1002	Construction Electricity	B	184	68
17.1003	Heavy Equipment Operation and Maintenance	B	185	68
17.1004	Masonry	C	186	68
17.1005	Painting and Decorating	C	187	68
17.1007	Plumbing and Pipefitting	B	188	68
17.1008	Dry Wall Installation	B	189	68
17.1100	Custodial Services	C	190	69
17.1200	Diesel Mechanic	B	191	70
17.1300	Drafting	B	192	71

Office of Education Code No.	Occupational Program Titles	Funding Priority	MIS Program Number	Manpower Cluster No.
17.1401	Industrial Electrician	B	193	72
17.1402	Line Repairers	C	194	72
17.1403	Motor Repairers	B	195	72
17.1501	Communications Electronics	C	196	73
17.1502	Industrial Electronics	B	197	73
17.1503	Radio and Television Repair	B	198	73
17.1601	Dry Cleaning	C	199	74
17.1602	Laundering	C	200	74
17.1700	Supervisors and Managers	C	201	75
17.1900	Graphic Arts	B	202	77
17.1901	Composition, Makeup and Typesetting	C	203	77
17.1902	Printing Press Operation	C	204	77
17.1903	Lithography, Photography and Platemaking	B	205	77
17.1904	Photoengraving	B	206	77
17.1905	Silk Screen Making and Printing	C	207	77
17.1906	Bookbinding	C	208	77
17.2000	Industrial Atomic Energy	A	209	78
17.2001	Installation, Operation and Maintenance Reactors	B	210	78
17.2002	Radiography	A	211	78
17.2003	Industrial Use of Radioisotopes	A	212	78
17.2101	Instruments Repair (Other than Watch)	A	213	79
17.2102	Watchmaking and Repair	C	214	79
17.2200	Maritime Maintenance and Services	D	215	80
17.2301	Foundry	B	216	81
17.2302	Machine Shop	A	217	81
17.2303	Machine Tool Operations (Semi-Skill)	B	218	81
17.2304	Combined Metal Trades	B	219	81
17.2305	Sheet Metal	B	220	81
17.2306	Welding	B	221	81
17.2307	Tool and Die Making	A	222	81
17.2308	Die Sinking	A	223	81
17.2309	Metal Patternmaking	B	224	81
17.2400	Metallurgy	B	225	82
17.2601	Barbering	C	226	83
17.2602	Cosmetology	B	227	83
17.2700	Plastics Manufacturing	B	228	84
17.2801	Fire Prevention and Control	B	229	85
17.2802	Law Enforcement	B	230	85
17.3000	Refrigeration	A	231	87
17.3100	Small Engine Repair	B	232	88
17.3200	Stationary Energy Sources	A	233	89
17.3400	Leather Manufacturing and Repair	C	234	91
17.3500	Upholstering	C	235	92
17.3601	Millwork and Cabinet Making	C	236	93
17.2800	Public Services	B	388	85
04.9901	Hospitality	C	397	30
19.0599	Inter-Cluster Training	B	400	96

APPENDIX B

MIS COURSE NUMBERS AND DESCRIPTIONS

FULL NAME: Accounting I
ABBREVIATED NAME: Accounting 1
MIS COURSE NUMBER: 301
DESCRIPTION:

This course usually contains information on planning how to keep financial records, summarizing them for convenient interpretation, and analyzing them to advise what should be done. Practical practice sets may be used to emphasize actual business record management. Electronic data processing may also be integrated throughout the course where applicable. Basic fundamentals and terminology of accounting are usually stressed. This course usually includes planned learning experiences concerned with the initial and basic methods used in the informational system of computing, classifying, recording and maintaining numerical data involved in financial and product control records, including the paying and receiving of money. Career objectives are identified with a variety of occupational groups and specializations.

FULL NAME: Accounting II
ABBREVIATED NAME: Accounting 2
MIS COURSE NUMBER: 302
DESCRIPTION:

This course is intended to give the student in accounting more and deeper knowledge of the principles of accounting. It is a study of already learned principles applied to the more complicated types of business organizations, partnerships, corporations, branches, etc. The student may become familiar with specialized fields of accounting such as cost accounting, tax accounting, payroll accounting, etc. The knowledge gained in this study can be used for the student's future business or for further study in the accounting field. A better understanding may be developed between the relationship of automatic data processing and the manual processing of business data. This course is a continuation of Accounting I with more emphasis usually placed on financial statements and accounting records. Simulated business conditions may be provided through the use of practice sets. The course should be thought of as a continuation of first-year work as it provides a technical background for college-bound students who plan a business curriculum, as well as those who wish vocational preparation.

FULL NAME: Advanced Agriculture I
ABBREVIATED NAME: Adv. Agric. 1
MIS COURSE NUMBER: 101
DESCRIPTION:

This course includes information on job opportunities and/or career exploration in each of the seven areas of Agriculture. (Agricultural Production, Sales and Service, Agricultural Mechanics, Agricultural Products, Ornamental Horticulture, Agricultural Resources, Forestry and other Agricultural areas.) This course should include advanced instruction in one or more of the following areas: animals, plants, chemicals, seeds, mechanics, power construction, electrification, management, buying, selling, greenhouse equipment, landscaping, nursery equipment, turf equipment, recreation management, wildlife conservation and forest management. The use of field trips, community resources, and supervised experience programs are a recommended part of this course.

FULL NAME: Advanced Agriculture II
ABBREVIATED NAME: Adv. Agric. 2
MIS COURSE NUMBER: 161
DESCRIPTION:

This course is a continuation of Advanced Agriculture I with more emphasis on advanced instruction in one or more of the following areas: animals, plants, chemicals, seeds, mechanics, power construction, electrification, management, buying, selling, greenhouse equipment, landscaping, nursery equipment, turf equipment, recreation management, wildlife conservation and forest management. The use of field trips, community resources and supervised experience programs is a recommended part of this course.

FULL NAME: Advanced Alterations
ABBREVIATED NAME: Adv. Alterations
MIS COURSE NUMBER: 902
DESCRIPTION:

An alternative to cooperative occupational education for students having completed the first-year occupational clothing alteration course is enrollment in an advanced level occupational clothing alteration course. These advanced level students are provided with opportunities to practice a variety of alteration techniques on garments for customers. Simple business procedures, human relations as related to the job, care and repair of equipment, labor laws, safety practices and management techniques are incorporated into the course.

FULL NAME: Advanced Clothing Construction
ABBREVIATED NAME: Adv. Clo. Const.
MIS COURSE NUMBER: 913
DESCRIPTION:

This course includes planned educational clothing construction experiences providing students with opportunities to develop a higher level of previously learned clothing construction skills and techniques and to gain new knowledges and skills related to identified competencies needed in the field. Included are experiences working with a variety of types of fabrics with a variety of designs and finishes, interfacings, linings, fitting problems, hand stitches, pressing techniques and other experiences necessary to meet the needs and abilities of the students and the employment opportunities in the area. There is an emphasis on the development of the necessary personal qualities for successful employment, field trips to related jobs, evaluation of quality of work, and management of equipment and time.

FULL NAME: Advanced Furnishings Construction
ABBREVIATED NAME: Adv. Furn. Const.
MIS COURSE NUMBER: 933
DESCRIPTION:

This course consists of a combination of class and laboratory experiences planned to provide students with advanced level opportunities to increase their competencies related to the construction of furnishings and accessories for the home. In most instances, the learning experiences need to be planned on an individual basis according to the needs of the students and the related jobs available in the area. Class experiences are planned to provide students with opportunities to use additional equipment, perfect professional standards of construction, gain competency in constructing additional items for the home, and in the use of a wider variety of fabrics and patterns. Included is an emphasis on laws applicable to the field, safety, development of personal qualities, and other areas pertinent to identified jobs available in the area.

FULL NAME: Advanced Ornamental Horticulture
ABBREVIATED NAME: Adv. Orn. Hortic.
MIS COURSE NUMBER: 102
DESCRIPTION:

This course is the next step in a sequence following a beginning introductory ornamental horticulture course. Students are involved in a further in-depth study of each of the major subject matter divisions in ornamental horticulture. Additional experience and practice is provided in further skill development in the field, shop, laboratory, and greenhouse, as well as continued development of an individual and/or group supervised experience program.

FULL NAME: Advertising
ABBREVIATED NAME: Advertising
MIS COURSE NUMBER: 303
DESCRIPTION:

A study of all aspects of advertising based on the theory, principles, role in marketing and distribution of goods and services, including the skills of preparation, understanding of various types of media and institutions, and the basic requirements of acceptable facts and ideas originated and utilized.

FULL NAME: Agricultural Business Management
ABBREVIATED NAME: Agric. Bus. Mgt.
MIS COURSE NUMBER: 103
DESCRIPTION:

Planned learning activities and experiences including insurance, taxes, law, general management - farm or business, resources analysis, accounting, financing, resource acquisition, purchasing, sales, contracts, performance records, and maintenance. Instruction should include employer/employee relationships, planning techniques, and supervised experiences.

FULL NAME: Agricultural Business Marketing
ABBREVIATED NAME: Agric. Mkting.
MIS COURSE NUMBER: 304
DESCRIPTION:

Planned learning experiences which emphasize the principles and methods of marketing farm products. Usually, application is made to systems and agencies operating at both country and central markets, product grades, public regulations, pricing, and market analysis.

FULL NAME: Agricultural Construction
ABBREVIATED NAME: Agric. Const.
MIS COURSE NUMBER: 104
DESCRIPTION:

A combination of subject matter and planned learning experiences designed to assist students in developing skills and abilities needed in planning, laying out, fabrication, and maintenance of farm structures and other agricultural equipment. Included in the training are those activities that will assist students to develop the ability to plan, select materials for, construct, and maintain agricultural structures and conveniences. Students should receive practical experience either at home, in the school laboratory, or other facility.

FULL NAME: Agricultural Machine Operations
ABBREVIATED NAME: Agric. Mach. Oper.
MIS COURSE NUMBER: 105
DESCRIPTION:

Planned learning experiences and activities including the repair, adjustment, maintenance, overhaul, operation, and planning and coordinating the use of machinery, equipment, and tractors. A supervised experience program is an expected part of this course. Moreover, it should include classroom, laboratory, and field experience.

FULL NAME: Agricultural Machinery Maintenance
ABBREVIATED NAME: Agric. Mach. Main.
MIS COURSE NUMBER: 107
DESCRIPTION:

Planned learning activities and experiences including the operation, care, adjustment, maintenance, and repair of agricultural machinery. Machinery involved is tillage equipment, planting equipment, harvesting and storing equipment, livestock equipment, feeds handling equipment, spraying equipment, and other specialized machines. Students should receive practical experience either at home, in the school laboratory, or other facility.

FULL NAME: Agricultural Marketing
ABBREVIATED NAME: Agric. Mkting.
MIS COURSE NUMBER: 106
DESCRIPTION:

Planned learning activities and experiences which emphasize the principles and methods of marketing agricultural products. Futures information, methods of merchandising various products, closing techniques, profit and loss statements, determining prices, how laws affect sales, keeping records, finance and factors which affect it, credit considerations, and government rules and regulations affecting the marketing process. Students should receive practical experience either at home, in the school laboratory, or other facility.

FULL NAME: Agricultural Mechanics
ABBREVIATED NAME: Agric. Mech.
MIS COURSE NUMBER: 100
DESCRIPTION:

Planned learning experiences and activities designed to provide an orientation to and performance of basic skills involved in on-farm and off-farm mechanics areas. Areas included may be Agricultural Power and Machinery, Agricultural Structures and Conveniences, Soil Management, Water Management, Agricultural Mechanics Skills, Agricultural Construction and Maintenance, and Agricultural Electrification. Field trips, demonstrations, group activities, school or home-based practical experiences should be included.

FULL NAME: Agricultural Mechanics Skills
ABBREVIATED NAME: Agric. Mech. Skll.
MIS COURSE NUMBER: 108
DESCRIPTION:

Planned learning activities and experiences designed to include safe use and care of hand tools, beginning construction, selecting tools and equipment to do the job, operation of small engines, and other general mechanical skills. This should also include background orientation and preparation for entry-level jobs. Included in this course should be experience in maintenance of various equipment items and establishment of shop areas, including maintenance and care of the shop.

FULL NAME: Agricultural Power
ABBREVIATED NAME: Agric. Power
MIS COURSE NUMBER: 111
DESCRIPTION:

Planned learning experiences and activities designed to cover fundamentals, principles of selection, operation, safety, power, skills and techniques of power and mechanics. Students should receive practical experience either at home, in the school laboratory, or other facility.

FULL NAME: Agricultural Technology I
ABBREVIATED NAME: Agric. Tech. 1
MIS COURSE NUMBER: 112
DESCRIPTION:

Planned learning activities and experiences designed to inform students relating to laboratory testing experiences, safety practices, technical information concerned with mechanics, soils, water pollution, agricultural equipment, animals, crops, fertilizers, chemicals and nutrients, and related activities and programs. Students should receive practical experience either at home, in the school laboratory or other facility.

FULL NAME: Agricultural Technology II
ABBREVIATED NAME: Agric. Tech. 2
MIS COURSE NUMBER: 162
DESCRIPTION:

This course is a continuation of Agricultural Technology I with more emphasis on advanced technical instruction in one or more of the following areas: mechanics, soils, water pollution, agricultural equipment, animals, crops, fertilizers, chemicals and nutrients.

FULL NAME: Aircraft Maintenance I
ABBREVIATED NAME: Aircraft Main. 1
MIS COURSE NUMBER: 703
DESCRIPTION:

Specialized classroom instruction and skill development concerned with the maintenance and repair of all airplane parts other than engines, propellers, and instruments. Training emphasizes the layout and fabrication of sheet metal into parts, fittings and structural members, assembly and installation of structural members, equipment and mechanical parts, and the disassembly and replacement of damaged or worn parts. Training is in accordance with requirements of the Federal Aviation Administration for airframe mechanics.

FULL NAME: Aircraft Maintenance II
ABBREVIATED NAME: Aircraft Maint. 2
MIS COURSE NUMBER: 704
DESCRIPTION:

Specialized classroom instruction and skill development concerned with the maintenance and repair of all types of power plants for aircraft. Course work includes engine inspection and maintenance, lubrication and cooling, electrical and ignition systems, carburetion, fuels and fuel systems, and propellers. Training is in accordance with requirements of the Federal Aviation Administration for power plant mechanics.

FULL NAME: Air Conditioning I
ABBREVIATED NAME: Air Cond. 1
MIS COURSE NUMBER: 701
DESCRIPTION:

Classroom and shop experiences which enable the student to become proficient in the installation, repair, and maintenance of commercial and domestic air conditioning systems. Instruction should focus on the theory and application of basic principles involved in conditioning of air (heating, cooling, filtering and controlling humidity); blueprint reading; the use of technical manuals; the diagnosis of malfunctions; the overhaul, repair, and adjustment of parts such as pumps, compressors, valves, springs and connections; and the repair of electric pneumatic control systems.

FULL NAME: Air Conditioning II
ABBREVIATED NAME: Air Cond. 2
MIS COURSE NUMBER: 702
DESCRIPTION:

This course is a continuation of the 11th grade course and provides experiences in the installation, repair, and maintenance of air conditioning systems. This course is articulated with the 11th grade course so that the student is afforded additional information and experiences relevant to air conditioning occupations. The emphasis is upon the development of knowledge and skills necessary for the graduating student to enter an air conditioning occupation or pursue further training.

FULL NAME: Alterations
ABBREVIATED NAME: Alterations
MIS COURSE NUMBER: 901
DESCRIPTION:

This course is designed to provide students with the opportunity to gain proficiency in skills and techniques needed by an alterationist. Preparation for employment is enhanced through experiences in performing the type of alterations which are realistic to the actual job market. This course needs to be individualized to the extent of providing each student opportunities to practice techniques until attaining a level of acceptability in the job market. Experiences are provided for acquiring the most commonly required alteration techniques for the available jobs, such as identifying and marking fitting problems, adjusting hems, necklines and waistlines, and altering cuffs. Included are experiences in making satisfying, acceptable alterations on garments for others with an emphasis on the development of the personal qualities necessary for successful work with the public.

FULL NAME: Animal Science
ABBREVIATED NAME: Anl. Sci.
MIS COURSE NUMBER: 113
DESCRIPTION:

Planned learning experiences which are concerned with the study and the operations dealing with theories, principles, and practices in producing (breeding, feeding, care and housing) animals and animal products for economic and other uses. Students should have a planned, supervised experience program with a recommended system of records. Classroom, laboratory, shop, and field activities are fitted together to make a coordinated learning experience.

FULL NAME: Animal Science Specialty
ABBREVIATED NAME: Anl. Sci. Spec.
MIS COURSE NUMBER: 114
DESCRIPTION:

A course that deals with specialized training in the care, feeding, breeding, and management of one or more classes of livestock, Small Animal Science, Horse Science, Catfish Farming, Companion Animal Science, Laboratory Animal Science, Beef Production, etc. Students should receive practical experience either at home, in the school laboratory, or other facility.

FULL NAME: Animal Science Specialty Business Management
ABBREVIATED NAME: Anl. Sci. Spec. BM
MIS COURSE NUMBER: 115
DESCRIPTION:

This course follows in a sequence of courses that has provided training in specialty animal care. Business management procedures as are needed for ordering, purchasing, financing, recordkeeping, housing, personnel management, selling and servicing, and public relations work according to the needs of the specialty area are all included. Students should receive practical experience either at home, in the school laboratory, or other facility.

FULL NAME: Appliance Repair I
ABBREVIATED NAME: Appl. Repair 1
MIS COURSE NUMBER: 705
DESCRIPTION:

This course provides organized, specialized learning experiences including theory, laboratory, and shopwork related to installing, maintaining, and repairing components such as relays, solenoids, timers, pumps, motors, drive trains, resistive heating elements, and thermostats used in appliances such as washers, dryers, water heaters, and ranges. Emphasis is also placed on customer and job relationships, business principles and practices, warranties and service policies, and the fundamentals of merchandising and warehousing.

FULL NAME: Appliance Repair II
ABBREVIATED NAME: Appl. Repair 2
MIS COURSE NUMBER: 706
DESCRIPTION:

This course provides organized, specialized learning experiences which include theory, laboratory, and shopwork related to installing, maintaining, and repairing components and systems used in large appliances. This course is articulated with the 11th grade course in such a manner that the student is afforded additional information and experiences relevant to appliance repair occupations. The emphasis is upon the development of knowledge and skills necessary for the graduating student to enter an appliance repair occupation or pursue further training.

FULL NAME: Applied Biological and Agricultural Occupations Cooperative Education
ABBREVIATED NAME: ABA Occ. COED
MIS COURSE NUMBER: 199
DESCRIPTION:

Planned learning experiences and activities including regularly scheduled supervised employment in the community and occupational-oriented in-school instruction. The employing community serves as a laboratory where students have the opportunity to apply the principles and practices they have learned in school. The school instruction program should include employee/employer relationships, safety instruction, savings programs, insurance, taxation, law, job application, OSHA regulations, working with the customer, sales and purchasing records, taking inventories, keeping records, appropriate business relationships, and analyzing the business records.

FULL NAME: Arboriculture
ABBREVIATED NAME: Arboriculture
MIS COURSE NUMBER: 116
DESCRIPTION:

Organized subject matter in the classroom, laboratory, field, shop, and greenhouse dealing with identification of trees and shrubs and their adaptation, growth and development of trees and shrubs, diagnosing and treating tree and shrub problems, tree maintenance; propagating and growing nursery stock, and kinds of nurseries. Students will participate in an approved home, school or community supervised experience program in this specialty area.

FULL NAME: Arboriculture Business Management
ABBREVIATED NAME: Arboriclt. BM
MIS COURSE NUMBER: 117
DESCRIPTION:

Similar to Landscape Business Management except that Arboriculture is to be substituted in those places where the word Landscaping is used. Students should receive practical experience either at home, in the school laboratory, or other facility.

FULL NAME: Architectural Drafting I
ABBREVIATED NAME: Arch. Drafting 1
MIS COURSE NUMBER: 783
DESCRIPTION:

This course provides organized, specialized learning experiences which include the making of drawings of beams, columns and other structural members. Structural terminology used by fabricators and erectors; sloping beams; skewed beams, trusses and panel point connections, and riveted and welding construction.

FULL NAME: Architectural Drafting II
ABBREVIATED NAME: Arch. Drafting 2
MIS COURSE NUMBER: 784
DESCRIPTION:

This course is a continuation of Architectual Drafting I with more emphasis on structural terminology and design techniques used by fabricators, including the use of AISC Handbook in laying out details of structural members and drawings and problems related to the placement of reinforcing bars, etc.

FULL NAME: Automotive Body and Fender Repair I
ABBREVIATED NAME: Auto. B & F Rpr. 1
MIS COURSE NUMBER: 707
DESCRIPTION:

This course provides learning experiences and skill development in all phases of repairing damaged metal and fiberglass bodies and fenders, including metal straightening by hammering, smoothing by filing, use of all kinds of filler, grinding and sanding to conceal imperfections, and painting and replacement of body components including trim. Instruction also includes the repair, replacement, and alignment of frames, running gear, and suspension.

FULL NAME: Automotive Services I
ABBREVIATED NAME: Auto. Services 1
MIS COURSE NUMBER: 711
DESCRIPTION:

This course provides learning experiences which include theory, laboratory, and shopwork related to the maintenance of automotive vehicles. Instruction and experience are provided in the diagnosis of malfunctions, parts inspection, repair and replacement of parts, engine overhaul and repair, maintenance, adjustment or repair of ignition, carburetion, brakes, transmissions and front end systems, and installation of accessories such as radios, heaters, mirrors, and windshield wipers. Instruction also includes the use of technical manuals and hand and power tools, as well as customer relations and business practices.

FULL NAME: Automotive Services II
ABBREVIATED NAME: Auto. Services 2
MIS COURSE NUMBER: 712
DESCRIPTION:

This course is a continuation of the 11th grade course and provides learning experiences in the maintenance and repair of automotive systems and accessories. This course is articulated with the 11th grade course so the student is afforded additional information and experiences relevant to automotive service occupations. The emphasis is upon the development of knowledge and skills necessary for the graduating student to enter an automotive service occupation or pursue further training.

FULL NAME: Barbering I
ABBREVIATED NAME: Barbering 1
MIS COURSE NUMBER: 903
DESCRIPTION:

The barbering program is 1,872 hours in length and must be approved and licensed by the Department of Registration and Education. It offers both theory and practice in the following areas: anatomy, physiology, skin diseases, hygiene and sanitation, bacteriology, barber history and law, pharmacology, electricity and light, hair cutting, shaving, shampooing, massaging, and implements.

FULL NAME: Barbering II
ABBREVIATED NAME: Barbering 2
MIS COURSE NUMBER: 904
DESCRIPTION:

Same as description for Barbering I except this notation is used when the 1,872 hours are specified as a semester one or semester two course.

FULL NAME: Basic Agriculture
ABBREVIATED NAME: Basic Agric.
MIS COURSE NUMBER: 110
DESCRIPTION:

Basic Agriculture provides an introduction to plants and animals and elements of their selection, care and management. Safe tractor and machinery operation, as well as the safe use and care of hand tools, is stressed in shop activities. Field trips, demonstrations, group activities, school or home-based practical experiences should be included in accordance with the needs of the students and the occupational objectives of the class.

FULL NAME: Basic Food Production and Services
ABBREVIATED NAME: Bas. Fd. Pro. & Ser.
MIS COURSE NUMBER: 924
DESCRIPTION:

This course includes the second level of food and nutrition classroom and laboratory experiences as orientation to the food service industry. Knowledge and skills previously learned may be reviewed with planned experiences to increase each individual's knowledge and skills in food preparation and serving. The course includes experiences related to each of the major categories of food, food purchasing, food preparation principles, meal planning, serving of food, and table settings. Experiences planned for students to gain the competencies needed for jobs as bus boys, waiters, waitresses, kitchen helpers, and similar jobs are included. Such areas as sanitation, use and care of equipment, safety, nutrition, terminology, and personal characteristics needed for success in jobs in the industry are emphasized throughout the course as perparation for further training.

FULL NAME: Business Communications
ABBREVIATED NAME: Business Communicate.
MIS COURSE NUMBER: 344
DESCRIPTION:

This course provides organized, specialized learning experiences in oral and written communications in the field of business. Included are: (1) a review of the mechanical features of correspondence; (2) the composition of standard types of business letters; (3) practice in the oral presentation of ideas.

FULL NAME: Business English
ABBREVIATED NAME: Bus. English
MIS COURSE NUMBER: 342
DESCRIPTION:

This course provides organized and specialized learning experiences in spelling, vocabulary, usage, sentence structure, and pronunciation; and the use of reference books. Featuring practical business English in current usage, the use of language, grammar and punctuation in speaking, listening and reading skills are covered.

FULL NAME: Business Fundamentals
ABBREVIATED NAME: Bus. Fundamental
MIS COURSE NUMBER: 347
DESCRIPTION:

An organization of subject matter concerned with a wide range of considerations in the field of managing businesses, including the organizational aspects, managerial problems, financing, labor, government regulations, layout, control of materials, cost control, production and marketing, buying and pricing, and related problems.

FULL NAME: Business Law
ABBREVIATED NAME: Business Law
MIS COURSE NUMBER: 341
DESCRIPTION:

Subject matter is designed to highlight such general areas of law as law and society, contracts, regulation, agency and employment, partnerships, corporations, real property and leases, insurance, security devices, bankruptcy, and trusts and estates. Case studies relate to legal problems which may arise in day-to-day commercial and personal transactions.

FULL NAME: Business Machine Maintenance I
ABBREVIATED NAME: Bus. Mach. Main. 1
MIS COURSE NUMBER: 713
DESCRIPTION:

This course provides organized, specialized learning experiences which include laboratory and shopwork related to maintaining and repairing business and office machines such as typewriters, dictation machines, calculators, duplicating machines, and mailing machines. Instruction includes information and experiences in diagnostic and repair techniques, use and care of special hand and power tools, soldering, business practices and customer relations.

FULL NAME: Business Machine Maintenance II
ABBREVIATED NAME: Bus. Mach. Main. 2
MIS COURSE NUMBER: 714
DESCRIPTION:

This course is a continuation of the 11th grade course and provides learning experiences in maintaining and repairing business and office machines such as typewriters, dictation machines, calculators, duplicating machines, and mailing machines. This course is articulated with the 11th grade course in such a manner that the student is afforded additional information and experiences relevant to the business machine maintenance occupations. The emphasis is upon the development of knowledge and skills necessary for the graduating student to enter a business machine maintenance occupation or pursue further training.

FULL NAME: Business Math
ABBREVIATED NAME: Business Math
MIS COURSE NUMBER: 343
DESCRIPTION:

Decimals, fractions, weights and measures, and percents are reviewed with emphasis on building speed and accuracy. Business applications are in the areas of checking accounts, simple and compound interest, cash and trade discount, selling foods, payroll, time payment plans and commercial loans.

FULL NAME: Buying
ABBREVIATED NAME: Buying
MIS COURSE NUMBER: 305
DESCRIPTION:

Organized learning experiences which are concerned with planning, obtaining, and controlling inventories of manufactured goods or raw materials for re-sale or processing.

FULL NAME: Camp Ground Management
ABBREVIATED NAME: Camp Ground Mgt.
MIS COURSE NUMBER: 118
DESCRIPTION:

This course provides subject matter and practical learning experiences that will enable the student to understand and provide for the needs of campers, fishermen, hunters, hikers, swimmers, horseback riders, and others who patronize campgrounds. The physical layout, construction, and organization structure of a campground business are important components of experiences to be gained. Students should receive practical experience either at home, in the school laboratory, or other facility.

FULL NAME: Chemicals
ABBREVIATED NAME: Chemicals
MIS COURSE NUMBER: 121
DESCRIPTION:

Planned learning activities and experiences designed to provide instruction in the identification of chemical needs, the selection of the proper chemical to correct the need, and methods of improving plant and animal yield. The safe use of materials and equipment are emphasized throughout. Students should receive practical experience either at home, in the school laboratory, or other facility.

FULL NAME: Child and Adult Care
ABBREVIATED NAME: Child & Ad. Care
MIS COURSE NUMBER: 905
DESCRIPTION:

This course offers the opportunity to study human growth and development. Factors which contribute to the physical, social, emotional and intellectual development of a child in a family unit; the physical, social and emotional needs of individuals of all ages; and the development of practical techniques for meeting these needs will be studied.

FULL NAME: Child Care Orientation
ABBREVIATED NAME: Ch. Care Orient.
MIS COURSE NUMBER: 908
DESCRIPTION:

This course includes the principles and processes which direct the physical, social, emotional and intellectual growth and development of young children and information pertaining to job opportunities and employment in the child care field. Experiences with young children will be planned as needed to aid the students in understanding the basic child care principles in relation to meeting children's needs through guided activities.

FULL NAME: Child Care Occupations I
ABBREVIATED NAME: Ch. Care Occ. 1
MIS COURSE NUMBER: 906
DESCRIPTION:

This course is designed to provide students with related instruction and actual training in working with young children in a laboratory setting. The students will have opportunities to apply their learnings about children through participation in the child care lab, observation of children individually and in groups, and planning and evaluation of group activities which meet the needs of preschool programs, children's play and learning activities, creative activities, health and safety, food and nutrition, and child care facilities and equipment. Laboratory experiences can be offered through an in-school program or through supervised placement in kindergarten, lower elementary grades, or day care centers and nursery schools.

FULL NAME: Child Care Occupations II
ABBREVIATED NAME: Ch. Care Occ. 2
MIS COURSE NUMBER: 907
DESCRIPTION:

This course includes experiences which simulate the experience of on-the-job placement and related instruction. Students will have the opportunity to develop additional competencies in planning, implementing, and evaluating activities suitable for young children. More opportunity will be provided for students to initiate and direct a variety of activities for groups of children in the child care lab or extended classroom setting. Basic program planning, selection of materials and equipment, establishment of cooperative relationship with parents, and community services for children will be included. Some principles of supervision and administration of child care facilities will be introduced. Laboratory experiences can be offered through an in-school program or through supervised placement in kindergarten, lower elementary grades, or day care centers and nursery schools.

FULL NAME: Clerical Office Practice
ABBREVIATED NAME: Cler. Off. Prac.
MIS COURSE NUMBER: 306
DESCRIPTION:

Clerical Office Practice offers the type of training that will equip students to take their places in a business office as general clerical office workers. In order to master office skills, training is usually given in typing, answering the telephone, receiving callers, duplicating, filing, accounting, mailing service, and operating various business machines. The students may receive on-the-job training through office simulation on various clerical jobs. Shorthand usually is not taught. If it is, then the course is usually called Secretarial Office Practice. A course entitled Office Practice may or may not have shorthand taught. This is a capstone course designed to prepare office practice students for immediate employment upon graduation. This course may also emphasize office etiquette, proper business behavior, occupational information, and a review of business grammar and business mathematics. Emphasis is placed on developing desirable personality traits and work habits necessary in actual office situations. Skills and understandings previously learned may be reviewed, while office procedures and techniques that have not been included in other courses are introduced. These old and new understandings and skills are integrated by completing a series of realistic office assignments.

FULL NAME: Clothing Construction and Related Occupations
ABBREVIATED NAME: Clo. Con. & Rel. Occ.
MIS COURSE NUMBER: 910
DESCRIPTION:

This course includes planned educational experiences to give the student an introduction to the clothing and textiles production and characteristics, fabric selection, selection and use of basic clothing construction equipment, selection and use of simple commercial patterns, and experiences designed to provide training in the skills related to beginning clothing construction. Throughout the course, there is an emphasis on developing techniques, standards of construction, personal qualities, plus skills and knowledge acceptable in the commercial world. Also included throughout the course are information and experiences to provide the student with an understanding of the jobs and careers using competencies related to the clothing field.

FULL NAME: Clothing and Fabrics Care and Maintenance
ABBREVIATED NAME: Clo. & Fab. Ca. & Main.
MIS COURSE NUMBER: 911
DESCRIPTION:

This course is designed to include classroom and laboratory experiences which provide students with opportunities to gain the competencies needed for employment in the field. The laboratory experiences are planned to provide the student with opportunities to gain competency in working with commercial laundry and/or dry cleaning equipment and including experiences such as spotting, mending, ironing, pressing, storing, and other aspects of care and maintenance of fabrics or clothing. Throughout the course, there is an emphasis on management techniques, personal characteristics related to successful employment, safety, labor laws, and other identified needs of the students.

FULL NAME: Clothing and Fabric Maintenance
ABBREVIATED NAME: Clo. & Fab. Main.
MIS COURSE NUMBER: 912
DESCRIPTION:

This course is an advanced level course designed to include classroom and laboratory experiences which will provide opportunities for students to improve their previously acquired competencies and to gain new knowledge and skills related to the fabric maintenance field. Individualized instruction will be provided to aid each student with the opportunities needed to develop their individual competencies needed for employment in their main area of interest. Emphasis will be on use and care of commercial equipment, care of specialized fabrics such as leather and furs, specialized repairs, and other advanced level experiences in keeping with area job opportunities. Safety, labor laws, management techniques, and human relations will continue to be emphasized.

FULL NAME: Combined Metal Trades I
ABBREVIATED NAME: Com. Metal Trd. 1
MIS COURSE NUMBER: 715
DESCRIPTION:

This course provides experiences in several areas of metalworking, including sheet metal, foundry, machine shop, welding, metallurgy, and heat treatment. Instruction includes the fabrication and assembly of metal products with emphasis on the layout of materials, setting up and operating metal forming and shaping machines, positioning, aligning, fitting and welding parts. Also emphasized is the making of computations related to work dimensions, uses of precision measuring instruments, machining methods, gas, arc, and combination welding, heat treatment, blueprint reading, and the properties of metals.

FULL NAME: Combined Metal Trades II
ABBREVIATED NAME: Com. Metal Trd. 2
MIS COURSE NUMBER: 716
DESCRIPTION:

This course is a continuation of the 11th grade course providing learning experiences concerned with several areas of metalworking, including sheet metal, foundry, machine shop, and welding. This course is articulated with the 11th grade course in such a manner that the student is afforded additional information and experiences relevant to the metalworking occupations. The emphasis is upon the development of knowledge and skills necessary for the graduating student to enter a metalworking occupation or pursue further training.

FULL NAME: Commercial Art
ABBREVIATED NAME: Commercial Art
MIS COURSE NUMBER: 782
DESCRIPTION:

A study of the elements of design: line, shape, value, texture, and color and the principles of organization i. e. balance, rhythm, variety, proportion, and unity as individual and related factors in design. Knowledge of these foundations of good design is stressed as well as their use in creative work.

FULL NAME: Commercial Art I
ABBREVIATED NAME: Cml. Art 1
MIS COURSE NUMBER: 717
DESCRIPTION:

This course provides learning experiences related to the design and execution of layouts and illustrations for advertising, display, and instructional manuals. Instruction includes advertising theory, preparation of copy, lettering, poster design, fashion illustration, silk screen, air brush and touch-up, inks and color dynamics, package and product design, drawings for line and halftone reproduction, and other display devices and exhibits.

FULL NAME: Commercial Art II
ABBREVIATED NAME: Cml. Art 2
MIS COURSE NUMBER: 718
DESCRIPTION:

This course is a continuation of the 11th grade course, providing learning experiences concerned with the design and execution of layouts and illustrations for advertising, display, and other uses. This course is articulated with the 11th grade course in such a manner that the student is afforded additional information and experiences relevant to commercial art occupations. The emphasis of the course is upon the development of knowledge and skills necessary for the graduating student to enter a commercial art occupation or pursue further training.

FULL NAME: Commercial Food Production and Services
ABBREVIATED NAME: Cml. Fd. Pro & Ser.
MIS COURSE NUMBER: 925
DESCRIPTION:

This course is an advanced level in-school quantity foods class. Included are opportunities for students to increase their level of skill on all of the areas included in the quantity foods class with additional experiences planned to meet the individual needs and rates of progress of the students. Specialized experiences are planned according to particular job opportunities and student career objectives to provide students with the opportunities to develop additional marketable skills qualifying them for such jobs as assistant cook, cook, caterer, or specialty cook.

FULL NAME: Commercial Photography I
ABBREVIATED NAME: Cml. Photo. 1
MIS COURSE NUMBER: 721
DESCRIPTION:

This course provides learning experiences in all phases of camera uses and photographic processing. Instruction includes: composition and color dynamics; contact printing and enlarging; developing film; air brush techniques; cameras, meters, and other photographic equipment; portrait, commercial, and industrial photography; and processes such as microfilming and the preparation of copy for printing and graphic arts processes. Instruction also emphasizes the planning, developing, and producing of audio-visual materials.

FULL NAME: Commercial Photography II
ABBREVIATED NAME: Cml. Photo. 2
MIS COURSE NUMBER: 722
DESCRIPTION:

This course is a continuation of the 11th grade course providing learning experiences concerned with all phases of camera uses and photographic processing. This course is articulated with the 11th grade course in such a manner that the student is afforded additional information and experiences relevant to commercial photography occupations. The emphasis is upon the development of knowledge and skills necessary for the graduating student to enter a commercial photography occupation or pursue further training.

FULL NAME: Communication Electronics I
ABBREVIATED NAME: Comm. Electro. 1
MIS COURSE NUMBER: 723
DESCRIPTION:

This course provides theoretical and practical learning experiences in the assembly, installation, operation, maintenance, and repair of communications equipment and systems of several types. Instruction is provided in the following: review of basic DC and AC concepts and circuits, industrial and entertainment sound systems, data processing systems, telephone dial and central office systems, two-way radio, hearing aids, and other communication systems.

FULL NAME: Communication Electronics II
ABBREVIATED NAME: Comm. Electro. 2
MIS COURSE NUMBER: 724
DESCRIPTION:

This course is a continuation of the 11th grade course providing learning experiences concerned with communication electronics occupations. This course is articulated with the 11th grade course in such a manner that the student is afforded additional information and experiences relevant to communications electronics. The emphasis is upon the development of knowledge and skills necessary for the graduating student to enter an occupation or pursue further training.

FULL NAME: Conservation
ABBREVIATED NAME: Conservation
MIS COURSE NUMBER: 122
DESCRIPTION:

Planned learning activities and experiences designed to inform students about grass and tree management and identification, pond planning and management, conservation structures, need and use, surveying recreational living and equipment; wildlife control and identification, pollution control, and water and soil conservation. A combination of classroom instruction, laboratory work, and experience programs will provide the student with knowledge and experience in the field of conservation and practices.

FULL NAME: Construction and Building Trades I
ABBREVIATED NAME: Con. & Bldg. Trds. 1
MIS COURSE NUMBER: 725
DESCRIPTION:

This course provides learning experiences concerned with the erection, installation, maintenance and repair of buildings, highways, airports, missile sites, earth and other structures using assorted materials such as metal, wood, stone, brick, glass, concrete, or composition substances. Instruction is provided in a variety of activities such as cost estimating; cutting, fitting, fastening, and finishing various materials; uses of hand and power tools; blueprint reading; and technical specifications. The physical properties of materials are also emphasized.

FULL NAME: Construction and Building Trades II
ABBREVIATED NAME: Con. & Bldg. Trds. 2
MIS COURSE NUMBER: 726
DESCRIPTION:

This course is a continuation of the 11th grade course providing learning experiences concerned with the construction and building trades. This course is articulated with the 11th grade course in such a manner that the student is afforded additional information and experiences relevant to construction and building trades. The emphasis of the course is upon the development of knowledge and skills necessary for the graduating student to enter a construction and building trade or pursue further training.

FULL NAME: Consumer Economics
ABBREVIATED NAME: Consumer Econ.
MIS COURSE NUMBER: 348
DESCRIPTION:

The study of the economic welfare of the consumer and consumer groups in everyday life. Topics included are the consumer and the economy, money and family management, consumer information, consumer credit, buying, security, protection and ecology.

FULL NAME: Cooperative Work Training
ABBREVIATED NAME: C. W. T.
MIS COURSE NUMBER: 075
DESCRIPTION:

This course provides an organized and specialized sequence of learning experiences that allows students to acquire supervised work experience while pursuing other programmatic courses.

FULL NAME: Cosmetology I
ABBREVIATED NAME: Cosmetology 1
MIS COURSE NUMBER: 915
DESCRIPTION:

The cosmetology program is 1,500 hours in length and is approved and licensed by the Department of Registration and Education. It offers both theory and practice in the following areas: manicuring, shampooing, facials, electrical devices, scalp and hair, antisepticism, study of Illinois Beauty Culture Act, sanitary rules for beauty culture shops, labor laws, Workmen's Compensation Act, salesmanship, shop department and management. The program may be offered through an in-school program or by contracting with a private beauty school.

FULL NAME: Distributive Marketing (First Year)
ABBREVIATED NAME: Distr. Mkt. (1st)
MIS COURSE NUMBER: 307
DESCRIPTION:

Organized learning experiences concerned with the competencies needed by those in basic entry level jobs in distributive marketing, stressing the marketing functions operating in a business enterprise, basic information and skills related to products and types of distributive services needed, and including economic understanding, use of tools and equipment, and the requirements of employability.

FULL NAME: Distributive Marketing (Second Year)
ABBREVIATED NAME: Distr. Mkt. (2nd)
MIS COURSE NUMBER: 311
DESCRIPTION:

Organized learning experiences which are concerned with the competencies needed by those in career development jobs in distribution. The subject matter usually stresses the marketing functions operating in a business enterprise, knowledge and techniques related to product lines, and includes human relations, judgment skills, and the role of distribution in the economy.

FULL NAME: Distributive Marketing (Project)
ABBREVIATED NAME: Distr. Mkt. (Proj.)
MIS COURSE NUMBER: 308
DESCRIPTION:

The extension of classroom instruction into regularly scheduled laboratory training in which each pupil practices conditions of employment appropriate to his or her vocational objective. Usually, the instructor assigns individualized projects through which desired occupational competencies may be achieved, coordinates participation activities with requirements of representative businesses, arranges for some on-the-job training, and approves credit for successful performance in the school and marketing laboratory environments.

FULL NAME: Distributive Marketing Cooperative Education
ABBREVIATED NAME: Distr. Mkt. COED
MIS COURSE NUMBER: 319
DESCRIPTION:

Classroom instruction is supplemented with scheduled work experiences and employment in distributive marketing occupations appropriate to each pupil's vocational objective. Usually, the school refers pupils to training stations for an average of 15 hours per week throughout the school year, arranges for on-the-job training and supervision, and grants credit for successful application of classroom instruction in the training situation. The basic objectives of this course may be to offer instruction in distribution and marketing, to assist in the improvement of the techniques of distribution, to develop an understanding of the economic and social responsibilities of those permitted to engage in distribution in a free, competitive society. The content of Distributive Education may be selected by the student from individualized blocks in human relations, advertising, display, business ethics, customer services, data processing, credit, math, cash registering, retailing, management procedures, communications, recordkeeping, merchandise control, pricing, marketing research, wholesaling, transportation, and related job skills. The student should be able to expand and refine his or her attitudes, knowledges, and skills necessary for success in his or her career area.

FULL NAME: Dental Assistant Skills
ABBREVIATED NAME: Dent. Asst. Skill
MIS COURSE NUMBER: 502
DESCRIPTION:

Classroom, laboratory, and extended campus and/or cooperative education. The units of instruction for the Dental Assistant are designed to give the student the competencies required to function under the direction of the dentist. These units include the State Dental Practice Act and the role and function of the dental assistant, general office and patient routine, dental anatomy, and physiology, applied psychology and public relations, recordkeeping, supplies, care of instruments and equipment, bacteriology, radiography, pathology, oral hygiene and periodontics, anethesia and oral surgery, and pharmacology. Chairside practice under the direction of the dentist is required as a part of the program. With the exception of an area vocational center or large urban high school where the manpower needs justify an in-school dental laboratory, the student will learn in an extended campus and/or cooperative education experience.

FULL NAME: Drafting
ABBREVIATED NAME: Drafting
MIS COURSE NUMBER: 727
DESCRIPTION:

This course is a continuation of the 9th grade industrial orientation course and is designed to provide the learning experiences for the student to understand the kinds of knowledge and skills required for successful performance in occupations in the graphic communications industry, and to acquire basic knowledge of occupational opportunities within the industry, and to acquire basic knowledge and skills necessary as a foundation for further specialized training. The course includes instruction and experiences in lettering, sketching, the use of drafting instruments, projections, auxiliaries, sections, working drawings, and pictorial drawings, as well as an introduction to specialized areas of drafting including architectural drafting, mechanical drafting, electrical and electronic drafting, and map drawing.

FULL NAME: Drafting Occupations I
ABBREVIATED NAME: Draft. Occup. 1
MIS COURSE NUMBER: 728
DESCRIPTION:

This course provides learning experiences in all aspects of planning, preparing, and interpreting mechanical, aeronautical, architectural, structural, cartographic, electrical, electronic, piping or pneumatic drawings and sketches. Instruction provides experiences in drawing, the use of reproductive materials, equipment and processes, preparation of reports, data sheets and specifications, development of process charts and drawings, and the development of models.

FULL NAME: Drafting Occupations II
ABBREVIATED NAME: Draft. Occup. 2
MIS COURSE NUMBER: 731
DESCRIPTION:

This course is a continuation of the 11th grade course providing learning experiences concerned with planning, preparing, and interpreting various types of drawings and sketches. This course is articulated with the 11th grade course in such a manner that the student is afforded additional information and experiences relevant to the drafting occupations. The emphasis of the course is upon the development of knowledge and skills necessary for the graduating student to enter a drafting occupation or pursue further training.

FULL NAME: Educable Mentally Handicapped
ABBREVIATED NAME: EMH (In-School)
MIS COURSE NUMBER: 072
DESCRIPTION:

A course of study designed for individuals who have a rate of intellectual development which is approximately 45 to 75 percent of normal and can be expected to achieve maximally at the sixth grade level in academic work.

FULL NAME: Electric Motors
ABBREVIATED NAME: Electric Motors
MIS COURSE NUMBER: 123
DESCRIPTION:

Planned learning activities and experiences designed to provide instruction in the selection, use, care, and maintenance of electric motors. Included are the circuitry, troubleshooting, repair and adjustment, and controls of electric motors. Students should receive practical experience either at home, in the school laboratory, or other facility.

FULL NAME: Electrical Occupations I
ABBREVIATED NAME: Elec. Occup. 1
MIS COURSE NUMBER: 732
DESCRIPTION:

This course provides theory, laboratory experiences, and shopwork relating to the generation and transmission of electricity and installation and maintenance of electrical systems, equipment, and components. Instruction should emphasize the practical application of mathematics, electrical circuit diagrams, installation and maintenance procedures, and national, county, and city electrical codes. The course should also provide information on alternating current, inductive and capacitive reactance, power factors, transformer theory, vacuum tubes, semiconductors, power supplies and amplifiers, and practical experiences such as conduit layout, blueprint reading, motor installation, single-phase and three-phase system repair, and motor troubleshooting and repair.

FULL NAME: Electrical Occupations II
ABBREVIATED NAME: Elec. Occup. 2
MIS COURSE NUMBER: 733
DESCRIPTION:

This course provides theory, laboratory experience, and shopwork relating to the generation and transmission of electricity and installation and maintenance of electrical systems, equipment, and components. This course should be articulated with the 11th grade course in such a manner that the student is afforded additional information and experiences. The emphasis on this course should be placed upon the development of these theoretical and practical skills necessary for the graduating student to enter the electrical occupations or pursue further training.

FULL NAME: Electrical Wiring and Controls
ABBREVIATED NAME: Elec. Wir. & Cont.
MIS COURSE NUMBER: 124
DESCRIPTION:

Planned learning activities and experiences for training students in using, selecting, troubleshooting, maintaining, and installing electrical wiring materials and equipment including specialized controls.

FULL NAME: Electricity
ABBREVIATED NAME: Electricity
MIS COURSE NUMBER: 734
DESCRIPTION:

This course is a continuation of the 9th grade industrial orientation course and is designed to provide learning experiences for the student to understand the kinds of knowledge and skills required for successful performance in occupations in the electrical industry, to develop an awareness of occupational opportunities within the industry, and to acquire basic knowledge and skills necessary as a foundation for further specialized training. The course includes instruction and experiences in the sources and distribution of electrical power, basic DC and AC concepts and circuits, basic housewiring methods, industrial wiring methods, electrical appliances, motors and generators, and associated test equipment.

FULL NAME: Electrocardiograph Technician Skills
ABBREVIATED NAME: EKG Tech. Skill
MIS COURSE NUMBER: 503
DESCRIPTION:

Classroom, laboratory*, and extended campus and/or cooperative education. The student learns the competencies needed to perform as an EKG Technician in the hospital, clinic or doctor's office. The units of instruction include interpersonal relationships, electrode sites and placement, quality control, operating the EKG machine, interdepartmental relationships, anatomy, physiology, observing and reporting. * The purchase of a portable EKG machine is justified for in-school laboratory instruction if ample employment opportunities are available in the community. If employment opportunities are limited, instruction should take place in the health care facility utilizing the machines there.

FULL NAME: Electroencephalograph Technician Skills
ABBREVIATED NAME: EEG Tech. Skill
MIS COURSE NUMBER: 521
DESCRIPTION:

Classroom and extended campus and/or cooperative education. The student learns the competencies needed to perform as an EEG Technician in the hospital or clinic. The units of instruction include interpersonal relationships, recordkeeping, electrode sites and placement, quality control, operation of the EEG machine, interdepartmental relationships, anatomy, physiology, observing and reporting.

FULL NAME: Electronics
ABBREVIATED NAME: Electronics
MIS COURSE NUMBER: 735
DESCRIPTION:

This course is a continuation of the 9th grade industrial orientation course and is designed to provide learning experiences for the student to understand the kinds of knowledge and skills required for successful performance in occupations in the electronics industry, to develop an awareness of occupational opportunities within the industry, and to acquire basic knowledge and skills necessary as a foundation for future specialized training. The course includes instruction and experiences in the sources and distribution of electrical power, basic DC and AC concepts and circuits, vacuum tubes and transistors, basic communication systems, basic electronic control devices and transducers, sound systems, telephone systems, two-way radio, electronic consumer products, and test equipment such as VOM, VTVM, oscilloscope, tube and transistor testers.

FULL NAME: Electronics Occupations I
ABBREVIATED NAME: Electro. Occup. 1
MIS COURSE NUMBER: 736
DESCRIPTION:

This course provides specialized learning experiences related to the testing, assembling, installing, maintaining, and repairing of electronic equipment or systems such as radio, television, communication systems, industrial equipment, telephone systems, data processing equipment, and related test equipment. Instruction includes a review of basic DC and AC concepts and circuits and the study of and experience in repairing solid state devices and components, integrated circuits, photoelectric devices, timers, selection switches, communication systems, telephone systems, radio, television, phonographs, and tape recorders.

FULL NAME: Electronics Occupations II
ABBREVIATED NAME: Electro. Occup. 2
MIS COURSE NUMBER: 737
DESCRIPTION:

This course is a continuation of the 11th grade course and provides learning experiences related to several electronics occupations. This course is articulated with the 11th grade course so that the student is afforded additional information and experience relevant to the electronics occupations. The emphasis of this course is upon the development of knowledge and skills necessary for the graduating student to enter an electronics occupation or pursue further training.

FULL NAME: Environmental Control
ABBREVIATED NAME: Environment Cnt.
MIS COURSE NUMBER: 917
DESCRIPTION:

Basic environmental concerns, such as air pollution, noise pollution, water and waste water treatment, solid waste management, pesticide and other contaminants, and land use are reviewed. Fundamental concepts for wise citizenry and professional management are studied. Laboratory experience and field experimentation are a part of this practical course. Specialized experiences are planned according to particular job opportunities and students' career objectives.

FULL NAME: Environmental Practical Laboratory Assisting
ABBREVIATED NAME: Envir. Lab. Asst.
MIS COURSE NUMBER: 918
DESCRIPTION:

This course is for students who wish to pursue a career as an environmental laboratory assistant in a chemical laboratory, biological laboratory, or environmental pollution testing laboratory. Practical laboratory procedures will be stressed. Emphasis will be on personnel development, safety instrumentation, quality control, specimen collection, handling, storage, surveying, testing and recording.

FULL NAME: Environmental Specialization
ABBREVIATED NAME: Envir. Spec.
MIS COURSE NUMBER: 921
DESCRIPTION:

Specialized training is planned around student's individual career objectives. General pollution problem-solving is emphasized. Typical technical assistance entry-level employee training is stressed so that students are provided with the opportunity to develop marketable skills. Practical educational work experience is a part of the program for the students who have completed the total sequence and are adequately prepared for employment.

FULL NAME: Farm Business Management
ABBREVIATED NAME: Farm Bus. Mgt.
MIS COURSE NUMBER: 125
DESCRIPTION:

Planned learning activities concerned with the farm resource analysis, accounting, production, financing, resource acquisition, purchasing, farm inputs, performance records, contracts, marketing, and maintenance. The results of these learning activities are applied to formulating decisions in managing a farm, a farm appraisal business, a farm organization, a farm credit association, or other farm business. Students should receive practical experience either at home, in the school laboratory, or other facility.

FULL NAME: Farm Mechanics
ABBREVIATED NAME: Farm Mechanics
MIS COURSE NUMBER: 126
DESCRIPTION:

A combination of subject matter learnings and activities in the classroom, field and shop designed to develop abilities necessary for assisting with and/or performing the common and important operations or processes concerned with the adjustment, selection, operation, maintenance, repair, and use of farm machinery and equipment. Classroom, laboratory, shop, and field activities are used to provide training for a rounded experience. Students should receive practical experience either at home, in the school laboratory, or other facility.

FULL NAME: Farm Mechanics Specialty
ABBREVIATED NAME: Farm Mech. Spec.
MIS COURSE NUMBER: 127
DESCRIPTION:

From learnings and interest gained in introductory courses in agricultural occupations, the student will study and perform a variety of tasks to learn the skills necessary to the correct operation, maintenance, repair, and adjustment of that area of farm mechanics in which he or she has an occupational interest. Students should receive practical experience either at home, in the school laboratory, or other facility.

FULL NAME: Farm Mechanics Specialty Business Management
ABBREVIATED NAME: Farm Mech. Spec. BM
MIS COURSE NUMBER: 128
DESCRIPTION:

This is an advanced course for students who have taken introductory courses in agricultural occupations. The predominant purpose is to provide business management training particularly suited to a particular area of farm mechanization (farm implements, rural construction, rural electrical installation). Facilities and equipment, staffing, financing, sales and service, personnel management, and public relations are to be incorporated in the training to be provided. School and home projects, as well as cooperative education, should be used to broaden the scope of training.

FULL NAME: Farm Recordkeeping and Analysis
ABBREVIATED NAME: Farm Rcdkp. Anal.
MIS COURSE NUMBER: 131
DESCRIPTION:

Subject matter and experiences concerned with selecting and using records of a farm business operation and applying budget and analysis factors to determine efficiency of operation. Students will work with individual and group enterprises.

FULL NAME: Fertilizers
ABBREVIATED NAME: Fertilizers
MIS COURSE NUMBER: 132
DESCRIPTION:

Planned learning activities and experiences designed to provide instruction to properties of fertilizers and their types and uses in relation to the soil needs. Crop requirements and application procedures are included. Students should receive practical experience at home, in the school laboratory, or other facility.

FULL NAME: Finance
ABBREVIATED NAME: Finance
MIS COURSE NUMBER: 312
DESCRIPTION:

This course covers the principles of financial management and control as applied to business formation, expansion, reorganization, and liquidation. It explains sources of capital, various types of securities, method of financing, principles of investing, policies of investing, and kinds of financial and investment institutions. The segment on insurance will emphasize the practices and major coverages involved in life, fire, casualty, automobile, and property insurance; the nature of risks and the social and economic services of insurance.

FULL NAME: Fire Cadet I Cooperative Education
ABBREVIATED NAME: Fire Cad. 1 COED
MIS COURSE NUMBER: 909
DESCRIPTION:

A required course in the sequence to train fire cadets under Illinois law, Section 10-2.1-5. Students spend an hour a day in the classroom and 10-15 hours per week at the local fire department gaining experience assisting firemen on the job. While on the job, students are assigned to work with all vehicles in the station. In-school training includes emphasis on safety, statistics of loss of life and property by fire, communications, applications of basic techniques learned in fire engineering, caring for basic fire equipment, and handling tools.

FULL NAME: Fire Cadet II Cooperative Education
ABBREVIATED NAME: Fire Cad. 2 COED
MIS COURSE NUMBER: 919
DESCRIPTION:

A continuation of Fire Cadet I and a required course in the sequence to train fire cadets under Illinois law, Section 10-2.1-5. Students spend an hour a day in the classroom and 10-15 hours per week at the local fire department gaining experience assisting firemen on the job. While on the job, students are assigned to work in different fire stations around town. In-school training includes emphasis on safety, applications of advanced techniques learned in fire engineering, saving life and effecting rescue, protecting life and property against fire, caring for fire equipment, personal responsibilities, and working with others. When student cadets are in their second year, they sometimes act as instructors for new cadets.

FULL NAME: Fire Engineering
ABBREVIATED NAME: Fire Engineer.
MIS COURSE NUMBER: 922
DESCRIPTION:

This course provides the essential basic engineering information needed by the beginning fireman. Included are essentials of electrical wiring, ventilation, basic construction, types of construction materials, blueprint reading, and national codes. Emphasis on emergency situations being handled in a safe, expedient manner.

FULL NAME: Floriculture
ABBREVIATED NAME: Floriculture
MIS COURSE NUMBER: 133
DESCRIPTION:

This course is concerned with classroom, field, shop, laboratory, and greenhouse experiences involved with potted plant and cut flower production in and out of the greenhouse, beginning flower arrangement, and retail flower shop operation. Students should receive practical experience either at home, in the school laboratory, or other facility.

FULL NAME: Floriculture Business Management
ABBREVIATED NAME: Floriculture BM
MIS COURSE NUMBER: 134
DESCRIPTION:

Similar to Landscape Business Management except that the word Floriculture is substituted for Landscaping. Students should receive practical experience either at home, in the school laboratory, or other facility.

FULL NAME: Foods and Nutrition
ABBREVIATED NAME: Foods & Nutr.
MIS COURSE NUMBER: 923
DESCRIPTION:

This course will provide information and experience in nutrition, selection, and preparation of foods and meal management. Areas of study will include foods and nutrition for all age groups, selection and use of kitchen equipment, principles of sanitation, and serving and handling of foods.

FULL NAME: Forest Production
ABBREVIATED NAME: Forest Prod.
MIS COURSE NUMBER: 135
DESCRIPTION:

Planned learning activities and experiences that include a study of trees and their habitats, principle features, forms, and growing relationships. Emphasis may be placed on forest trees and methods of production. Students should receive practical experience at home, in the school laboratory, or other facility.

FULL NAME: Forest Protection
ABBREVIATED NAME: Forest Protect.
MIS COURSE NUMBER: 136
DESCRIPTION:

Planned learning activities and experiences designed to include instruction in diseases, insects, and fire as related to trees and forests. Basic forest fire prevention, detection, and method of controlling same should be included. Students should receive practical experience at home, in the school, or other facility.

FULL NAME: Foundry I
ABBREVIATED NAME: Foundry 1
MIS COURSE NUMBER: 738
DESCRIPTION:

This course provides specialized experiences in the theories and application of ferrous and non-ferrous foundries. Instruction emphasizes foundry equipment, various sands and refractories, sand and machine molding, chemistry and metallurgy, coremaking, chipping and grinding.

FULL NAME: Foundry II
ABBREVIATED NAME: Foundry 2
MIS COURSE NUMBER: 741
DESCRIPTION:

This course is a continuation of the 11th grade course, providing learning experiences concerned with the theory and application of ferrous and non-ferrous foundries. This course is articulated with the 11th grade course in such a manner that the student is afforded additional information and experiences relevant to foundry occupations. The emphasis of the course is upon the development of knowledge and skills necessary for the graduating student to enter a foundry occupation or pursue further training.

FULL NAME: Furnishihgs I (Care and Restore)
ABBREVIATED NAME: Furnishing 1
MIS COURSE NUMBER: 928
DESCRIPTION:

This course consists of a combination of class and laboratory experiences planned to provide students with the opportunities needed to gain employable competencies in caring for and restoring furnishings. In most instances, the learning experiences will need to be on an individual basis according to the number of available jobs in any particular area. Classwork consists of units on textiles, materials used in furnishings, equipment and products available to use in care and restoration, safety on the job, developing personal qualities leading to successful employment, and other areas pertinent to identified jobs available in the area. Laboratory experiences may include repairing and refinishing furniture, upholstering furniture, cleaning carpets by professional methods, drapery cleaning, spot removing, mending, laundering curtains and other household articles, silver cleaning, and other related areas.

FULL NAME: Furnishings II (Care and Restore)
ABBREVIATED NAME: Furnishings 2
MIS COURSE NUMBER: 931
DESCRIPTION:

This course is planned to provide in-depth experiences in an area related to the student's career objective where placing the student in a cooperative education training station is not feasible. Individualized instruction to allow the students to improve their skills in one of the areas experienced in Care and Restoration of Furnishings I is a major emphasis of this course. The development of personal qualities needed for employment, safety, public relations, applicable laws, and management of time and resources is included.

FULL NAME: Furnishings Construction
ABBREVIATED NAME: Furn. Const.
MIS COURSE NUMBER: 932
DESCRIPTION:

This course consists of a combination of class and laboratory experiences planned to provide students with the opportunities needed to gain an employable, public-acceptable level of competency in constructing one or more items for the home. In most instances, the learning experiences need to be planned on an individual basis according to the number of related jobs available in the area. Classwork includes units on household textiles related to home furnishings, accessories, developing personal qualities needed to work with and please the public, use and care of equipment, understanding professional standards and qualities in items related to their area, knowledge of products available related to the field, professional laboratory construction projects, and other areas as needed for the students to achieve employable skills. Class construction projects are usually in the area of making curtains, draperies, bedspreads, slip covers, or other similar items for the home.

FULL NAME: Game and Wildlife Management
ABBREVIATED NAME: Game Wldlf. Mgt.
MIS COURSE NUMBER: 137
DESCRIPTION:

Planned learning activities and experiences designed to include principles and practices involved in the preservation and/or improvement of wildlife and game such as fowl and fish. It includes fish propagation, rearing, stocking, and management in public and private waters. Game production and thinning should be included, as well as types of feed and feeding habits. Students should receive practical experience either at home, in the school laboratory, or other facility.

FULL NAME: General Merchandising
ABBREVIATED NAME: General Mdsing.
MIS COURSE NUMBER: 313
DESCRIPTION:

Merchandising includes a study of buying goods for resale, retail store financing, store layout, and controlling techniques of the store. Emphasis may be placed on basic job skills with respect to retail sales, sales records, handling money, wrapping, merchandising stock, receiving, pricing, and marketing, stock control, display advertising, and customer services. The place of retailing in the economy may also be studied. The course may include instruction in development of the present retail structure, managerial problems, retail problems of buying, pricing, merchandise control, sales planning, merchandise budgeting and stock turnover.

FULL NAME: General Vocational Orientation
ABBREVIATED NAME: Gen. Voc. Orient.
MIS COURSE NUMBER: 051
DESCRIPTION:

A course of organized experiences designed to provide career awareness and insight into the variety of options available for students in the world of work.

FULL NAME: Geriatric Aide Skills
ABBREVIATED NAME: Geri. Aide Skill
MIS COURSE NUMBER: 504
DESCRIPTION:

Classroom, laboratory, and extended campus and/or cooperative education. This course content includes the units of instruction and skills necessary to perform competently as a geriatric aide. The units of instruction include the biological, psychological, and sociological aspects of aging, special nursing care needs of the aged, special nutritional needs of the aged, maintenance of body processes, activities of daily living, the rehabilitation team, diagnostic and treatment procedures, and patient care procedures.

FULL NAME: Golf Course Management
ABBREVIATED NAME: Golf Course Mgt.
MIS COURSE NUMBER: 138
DESCRIPTION:

This course is more specialized than the course in Turf Management. Students will experience in the classroom, field, laboratory and shop those activities that will provide knowledge and skill in performing those necessary tasks in working with golf course employees, the public, equipment, grounds and facilities. Students should be provided the opportunity to learn and play the game of golf to better relate to the needs of the golfer and those who are to provide their services. Students should receive practical experience either at home, in the school laboratory, or other facility.

FULL NAME: Graphic Arts
ABBREVIATED NAME: Graphic Arts
MIS COURSE NUMBER: 742
DESCRIPTION:

This course is a continuation of the 9th grade industrial orientation course and is designed to provide the learning experiences necessary for the student to understand the kinds of knowledge and skills required for successful performance in occupations in the graphic arts industry, to develop an awareness of occupational opportunities within the industry, and to acquire basic knowledge and skills necessary as a foundation for further specialized training. The course includes instruction and experiences in composition and layout, continuous tone and process photography, platemaking, silk-screen printing, presswork and bindery operation.

FULL NAME: Graphic Arts Occupations I
ABBREVIATED NAME: Grph. Arts Occ. 1
MIS COURSE NUMBER: 743
DESCRIPTION:

This course provides learning experiences related to the areas of layout and composition, press setup, operation and maintenance, duplicating equipment setup and operation, platemaking, silk-screen printing, and assembling of printed matter into the finished product. Instruction emphasizes layout techniques, photocomposition, paste-upand copy preparation, camera work and darkroom procedures, stripping negatives, offset platemaking and presswork, color offset equipment, and bindery and finishing operations.

FULL NAME: Graphics Arts Occupations II
ABBREVIATED NAME: Grph. Arts Occ. 2
MIS COURSE NUMBER: 744
DESCRIPTION:

This course is a continuation of the 11th grade course and is articulated in such a manner that the student is afforded additional information and experiences relevant to graphic arts occupations.

The emphasis of the course is upon the development of knowledge and skills necessary for the graduating student to enter a graphic arts occupation or pursue further training.

FULL NAME: Greenhouse Operation and Management
ABBREVIATED NAME: Grnhse. Oper. Mgt.
MIS COURSE NUMBER: 141
DESCRIPTION:

Classroom, laboratory, shop, and greenhouse experiences that will provide a background and understanding of the structures used and the selection, maintenance, repair, adjustment, use, care, and operation of greenhouses to propagate and grow horticulture and other plants. Soil media, fertilizers, lighting, moisture relationships, disease, and insect control are important phases of the instructional program. A student experience program as a school greenhouse support person would be an appropriate activity as would a small home greenhouse. Students of cooperative education age would, of course, be placed cooperatively, concurrently, or following enrollment in this course.

FULL NAME: Grounds Maintenance
ABBREVIATED NAME: Grounds Main.
MIS COURSE NUMBER: 142
DESCRIPTION:

Planned learning activities and experiences designed to provide instruction in scheduling application of materials and general maintenance procedures. General techniques include maintenance of turf, skills needed for control of turf pests, and use of specialized turf equipment. Students should receive practical experience either at home, in the school laboratory, or other facility.

FULL NAME: Health and Nutrition for Children
ABBREVIATED NAME: Hlth. & Nutr. Child.
MIS COURSE NUMBER: 900
DESCRIPTION:

This course is an introduction to nutrition and its importance in feeding children in such a way as to maintain good health and to develop good eating habits. Menu planning, special diets, personal hygiene, good purchasing practices, and food storage and safety are included. Emphasis will also be on health routines, childhood diseases, first aid, clothing and safety as related to healthy growth and development.

FULL NAME: Health Occupations Cooperative
ABBREVIATED NAME: Hlth. Occ. Co-Op
MIS COURSE NUMBER: 020
DESCRIPTION:

This course is designed as the capstone course of a sequence of courses leading to a specific training objective in health occupations. The students receive on-the-job training related to their identified career objective while enrolled in a related class offering on organized course of study.

FULL NAME: Health Occupations Core Skills
ABBREVIATED NAME: Hlth. Core Skill
MIS COURSE NUMBER: 501
DESCRIPTION:

Classroom, laboratory, and clinical experiences. This course includes affective, cognitive, and psychomotor skills which are common to most health occupations. The units of instruction, activities, and skills should be planned to be learned concurrently by students. These units include the patient and his or her environment; medical ethics and conduct; common diseases - symptoms and treatment; identification and general care of medical equipment; body mechanics and transporting patients; collecting specimens; vital signs; aseptic techniques and applications; observing, recording and reporting; and functioning as member of the health care team. The student's performance of skills is supervised closely by a qualified health occupations instructor in both the in-school and health care facility extended campus laboratories. For example, in studying the unit "Body Mechanics and Transporting Patients," the principles of body mechanics are taught concurrently with demonstrations of procedures and return demonstrations in laboratory from the student. To further illustrate this example, the proper procedure in transporting the stroke patient with a paralyzed extremity from the bed to the chair, protecting both student and the patient.

FULL NAME: Health Occupations Orientation Core
ABBREVIATED NAME: Hlth. Ort. Core
MIS COURSE NUMBER: 590
DESCRIPTION:

Classroom, laboratory, and extended campus. This course includes a core of knowledges common to nearly all health occupations. This course develops the student's cognitive and affective skills to formulate a strong foundation for specific skill development at the 11th and 12th grade levels. Even though a high degree of job competency is not developed at this level, job-related activities and hands-on experience is an integral part of the course. The following units of instruction are correlated with activities: nutrition and special dietary needs, historical medical events, psychology of illness, organizational structure of health facilities, communication skills, microorganisms, metric measurements, safety standards, body systems, and terminology (interspersed throughout).

FULL NAME: Home Economics Cooperative
ABBREVIATED NAME: H E R O
MIS COURSE NUMBER: 030
DESCRIPTION:

Students are enrolled in a related class plus working several hours a day on the job. The related class includes general and specific class instruction. The general instruction includes such areas as employer-employee relationships, applying and interviewing for jobs, labor laws, safety on the job, personal characteristics contributing to job success, money management, taxes and other general topics related to employment. The specific class instruction includes solving problems concerning specific jobs, increasing knowledge and skills needed for the job, and pursuing additional information concerning additional training and career possibilities of a field.

FULL NAME: Home Management Assistant Occupational Training
ABBREVIATED NAME: Home Mgt. Asst.
MIS COURSE NUMBER: 935
DESCRIPTION:

This course includes planned occupational education classroom and laboratory experiences which provide opportunities for students to develop the skills, concepts, and attitudes needed for initial and continued employment as an assistant to homemakers requiring such services. Included are experiences related to the care of the home, care of young children, laundry services, services for the elderly, meal planning, marketing, food preparation, and pet care. There is an emphasis throughout the course on management, decision-making, and handling of emergencies. Interpersonal relationships, as related to the ability to work well with others, and the development of desirable personal traits and practices is stressed. Laboratory experiences are planned to simulate the types of experiences one would be expected to perform when employed in someone's home.

FULL NAME: Hospitality Industry Orientation
ABBREVIATED NAME: Hospy. Indus. Ort.
MIS COURSE NUMBER: 936
DESCRIPTION:

This course is designed to provide orientation to the nature and scope of the hospitality industry. Students will be exposed to career opportunities in enterprises which provide services related to lodging, recreation, entertainment, food service, hospitality, and travel conveniences. The hospitality processes of greeting, hosting, serving, and maintaining which are common to all hospitality enterprises will be studied in relationship to meeting human needs.

FULL NAME: Hospitality Occupations I
ABBREVIATED NAME: Hospy. Occ. 1
MIS COURSE NUMBER: 937
DESCRIPTION:

This course includes individualized, planned educational experiences which provide students opportunities to develop the attitudes, concepts, and skills necessary for entry-level employment in major areas of the hospitality industry. Students will concentrate in one area of training according to their interests and abilities and job opportunities in a given area. Interpersonal relationships as related to the ability to work with others and the development of desirable personal traits and practices are stressed. Laboratory experiences are planned to simulate the working conditions in which the employee would be expected to perform when employed.

FULL NAME: Hospitality Occupations II
ABBREVIATED NAME: Hospy. Occ. 2
MIS COURSE NUMBER: 938
DESCRIPTION:

This course is designed as an advanced level course to provide students with the necessary experiences needed to develop the knowledges and skills which would qualify them for employment in one of the specific areas of the hospitality industry. Specialized experiences are planned according to the identified job opportunities in food service hospitality, hotel and lodging, recreation, entertainment, recreation or travel services in the area. Practical educational work experiences are an integral part of the program.

FULL NAME: Industrial Electricity I
ABBREVIATED NAME: Indus. Elec. 1
MIS COURSE NUMBER: 745
DESCRIPTION:

This course provides organized, specialized learning experiences related to the maintenance and repair of a variety of industrial machinery driven by electric motors or which are electrically controlled. Instruction includes information and experiences in blueprint reading and circuit diagrams, use and care of hand and power tools, safety procedures, troubleshooting and repairing motors, motor controls, generators and other electrical circuits, conduit layouts, industrial wiring codes, apprenticeships, and unions.

FULL NAME: Industrial Electricity II
ABBREVIATED NAME: Indus. Elec. 2
MIS COURSE NUMBER: 746
DESCRIPTION:

This course is a continuation of the 11th grade course and provides learning experiences in the maintenance and repair of electrical, industrial machinery, and associated electrical circuitry. This course is articulated with the 11th grade course in such a manner that the student is afforded additional information and experiences relevant to industrial electrician occupations. The emphasis of the course is upon the development of knowledge and skills necessary for the student to enter the occupation or pursue further training.

FULL NAME: Industrial Electronics I
ABBREVIATED NAME: Indus. Electro. 1
MIS COURSE NUMBER: 747
DESCRIPTION:

This course provides organized, specialized laboratory and practical learning experiences concerned with maintaining and repairing industrial electronic equipment such as photoelectric controls; timers; counters; recorders; and transducers; equipment and components used in research centers; magnetic amplifiers; motors and motor controls; servomechanisms; digital circuitry; computers; and test instruments. Instruction includes a review of basic diagnostic and repair techniques, soldering, use and care of hand and power tools and test equipment.

FULL NAME: Industrial Electronics II
ABBREVIATED NAME: Indus. Electro. 2
MIS COURSE NUMBER: 748
DESCRIPTION:

This course is a continuation of the 11th grade course and provides learning experiences in maintaining and repairing industrial electronic equipment. This course is articulated with the 11th grade course in such a manner that the student is afforded additional information and experiences relevant to industrial electronic occupations. The emphasis is upon the development of knowledge and skills necessary for the graduating student to enter an industrial electronics occupation or pursue further training.

FULL NAME: Industrial Marketing
ABBREVIATED NAME: Indus. Mkting.
MIS COURSE NUMBER: 314
DESCRIPTION:

The study and analysis of the marketing structure for industrial products. Emphasis frequently is on product policies and lines, distribution channels, sales programs, and warehousing problems.

FULL NAME: Industrial Oriented Cooperative Education
ABBREVIATED NAME: IO Occ. COED
MIS COURSE NUMBER: 799
DESCRIPTION:

A cooperative effort between the school and industry to provide in-school and on-the-job experiences for students who will be engaged in industrial occupations. The objectives of this course are to offer capstone experiences under actual working conditions that will supplement those gained in the in-school setting. The course is applicable to those students who have completed courses in various areas of industrial occupations such as metalworking, electricity, electronics, drafting, graphic arts, woodworking, mechanics, small engine repair, construction trades, maritime occupations, automotive occupations, airframe mechanics, or electrical occupations, and who would benefit from information and experience offered by industry which cannot be offered by the local school.

FULL NAME: Industrial Sewing
ABBREVIATED NAME: Indus. Sewing
MIS COURSE NUMBER: 942
DESCRIPTION:

This course is designed to provide students with the opportunities needed to gain knowledge and skills related to identified competencies needed for employment in industrial sewing. Preparation for employment is provided through experiences planned to relate to the types of equipment and production found in the area industries. Experiences include all phases of production line and industrial project work. Mass production is often planned in cooperation with area businesses, school productions, or wherever there is an opportunity for such type of work in the area. Throughout the course there is an emphasis on management techniques, personal qualities related to employment success, safety, labor laws, and other identified needs of the students for employment in industrial sewing.

FULL NAME: Interior Decorating
ABBREVIATED NAME: Int. Decorating
MIS COURSE NUMBER: 944
DESCRIPTION:

This course is designed as an advanced level course in interior design. Included in the course are individualized problems in interior decorating planned to provide students with opportunities to develop their individuality and creativity together with applications of the basic fundamentals and principles acquired in occupational home furnishings.

FULL NAME: Interrelated Cooperative Education
ABBREVIATED NAME: Inter. Coop. Educ.
MIS COURSE NUMBER: 099
DESCRIPTION:

This course is designed as the capstone course of a sequence of courses leading to a specific training objective in any one of the many vocational occupations. The students receive on-the-job training related to their identified career objective while enrolled in a related class offering an organized course of study.

FULL NAME: Introduction to Accounting
ABBREVIATED NAME: Intro. to Acct.
MIS COURSE NUMBER: 352
DESCRIPTION:

Subject matter and learning experiences which are designed to introduce students to the general principles of accounting. Included for study are the theory and the practice of accounting and their application to proprietorships, partnerships, and corporations.

FULL NAME: Introduction to Business
ABBREVIATED NAME: Intro. Business
MIS COURSE NUMBER: 300
DESCRIPTION:

This course is designed to serve students who wish to explore the various core areas of "education for business." It serves as an exploratory and guidance course to determine whether students have the business abilities and interests that warrant continuing in the business education field. It informs concerning occupations available to students who pursue course work in this area. It serves as a foundation course for more advanced business subjects. It is a survey course of the different activities carried on in business and is basic to further study in any business course.

FULL NAME: Introduction to Computers and Programming
ABBREVIATED NAME: Intro. Comp. Prgm.
MIS COURSE NUMBER: 310
DESCRIPTION:

The student may experience subject matter and learning activities which involve the use of modern data processing procedures and equipment in financial activities, with special emphasis usually being placed on systems, including the use of punch card equipment, common language devices, and computers. In practice, special applications are usually made to inventory control, payroll procedures, customer accounts, billing procedures, and storage and retrieval of information. Course objectives are to prepare students for advanced work and to develop logical thought processes. This course is usually problem oriented to develop more skill and knowledge in the usage of the various data processing machines in more detailed business applications. Flow charting, system design, and advanced work are examples of units taught. Language concepts are introduced and students actually write computer programs. Students usually develop technical knowledge and skills in the basic computer equipment.

FULL NAME: Introduction to Data Processing
ABBREVIATED NAME: Intro. Data Proc.
MIS COURSE NUMBER: 320
DESCRIPTION:

This course is usually designed to give students the opportunity to decide if the field of data processing interests them as a vocation. Usually included in such a course is discussion of the methods and machines involved in manual, mechanical, paper tape, and computer data processing. Students learn the terminology of data processing and the capabilities of the various machines to be used. Accounting systems - - billing, payroll, and inventory control - - may be studied to show how they would be processed in each of the four types of data processing methods. Usually "hands on" experience is provided. Basic machines of a data processing system which includes the keypunch, verifier, sorter, collator, reproducer, and interpreter may be used. Data processing, as a business education course, should include a basic understanding of the theory of data processing, a knowledge of the various methods of processing data, and a knowledge of the machines currently being used in today's business world. It is designed to give the student a general view of the field of data processing. The course may provide a foundation for more specific study of data processing or provide familiarity with terminology and principles for students in other business or college preparatory sequences. Students should learn the theory of punched card data processing, as well as the features, functions, and operation of the various machines in a typical installation. In addition, the use of computers in today's business world should be explored.

FULL NAME: Introduction to Drafting
ABBREVIATED NAME: Intro. Drafting
MIS COURSE NUMBER: 788
DESCRIPTION:

A course of organized instruction in the techniques of depicting pictures, lines, etc., by pencil, pen or crayon or other substance.

FULL NAME: Introduction to Environmental Occupations
ABBREVIATED NAME: Intro. Env. Occ.
MIS COURSE NUMBER: 920
DESCRIPTION:

Students will develop an understanding of man's unique place in nature, an understanding of the combined forces which have led to the present environmental crises, highlighted by wanton destruction and depletion of resources, excessive pollution, and poor urban planning, and a quest for everyone's participation in our national search for a healthy, safe, and balanced environment. A thorough review of environmental occupations serves as the focal point from which ecological concerns are studied.

FULL NAME: Introduction to Furnishings and Related Occupations
ABBREVIATED NAME: Int. Fur. & Rel. Occ.
MIS COURSE NUMBER: 930
DESCRIPTION:

This course includes planned educational classroom and laboratory experiences to provide students with an introduction to the furnishings field and related job opportunities. Included in the course is the selection and care of furnishings, equipment, and accessories so as to satisfactorily meet people's environmental needs. Also included are experiences planned to aid the student in relating home furnishings needs to socio-economic factors, trends, values, individuality, psychological effects, and other factors influencing furnishings needs. Experiences are included related to selecting, planning, and coordinating furnishings for rooms, homes, and specific purposes, household textiles, and furniture construction. Job opportunities related to the field and competencies needed for successful employment are emphasized throughout the course.

FULL NAME: Introduction to Health Occupations
ABBREVIATED NAME: Intro. Hlth. Occ.
MIS COURSE NUMBER: 500
DESCRIPTION:

Classroom and community-based. The main purpose of this course is to assist the student in further development of his self-concept, matching his personal abilities to a tentative career choice. The course content provides in-depth information into health careers, the job and educational opportunities, and the educational and attitudinal requirements. The following units of instruction are correlated with career information: self-understanding, personal dress and grooming, health organizations and associations, the health care consumer, and interpersonal relationships.

FULL NAME: Introduction to Housing and Furnishings Occupations
ABBREVIATED NAME: In. Hse. & Fur. Occ.
MIS COURSE NUMBER: 940
DESCRIPTION:

This course includes planned educational classroom and laboratory experiences to provide students with an introduction to the housing and home furnishings field and related job opportunities. Included in the course is the selection and care of housing, furnishings, equipment, and accessories so as to satisfactorily meet people's environmental needs. Also included are experiences planned to aid the student in relating housing and home furnishings needs to socio-economic factors, trends, values, individuality, psychological effects, and other factors influencing housing and home furnishings needs. Also included are units on household textiles, color and design coordination, furniture construction, and other related topics. The application of these principles to jobs related to the field is emphasized throughout the course.

FULL NAME: Introduction to Housing and Related Occupations
ABBREVIATED NAME: In. Hse. & Rel. Occ.
MIS COURSE NUMBER: 950
DESCRIPTION:

This course includes planned educational classroom and laboratory experiences to provide students with an introduction to the housing field and related job opportunities. Included in the course is the selection of housing to meet the needs of individuals and families, history and trends in housing as related to the socio-economic needs of today's society, laws applicable to the field, drafting of floor plans, blueprint reading, housing materials, and other areas applicable to individual programs. Job opportunities related to the field and competencies needed for successful employment with various levels of training are emphasized throughout the course.

FULL NAME: Introduction to Industrial Occupations II
ABBREVIATED NAME: Intro. Ind. Occ. 2
MIS COURSE NUMBER: 778
DESCRIPTION:

This course is designed as an introduction into Industrial Occupations with emphasis on the career options available in the world of work to those individuals who pursue this type of training objective.

FULL NAME: Introduction to Law Enforcement
ABBREVIATED NAME: Intro. Law Enfor.
MIS COURSE NUMBER: 960
DESCRIPTION:

This course is designed to familiarize the student with law enforcement and provide for further training in the field. It includes such units as careers in law enforcement, the philosophy and history of society and law enforcement, and an overview of the technical aspects of law enforcement. May also include a supervised internship program with area police departments.

FULL NAME: Introduction to Office Machines
ABBREVIATED NAME: Intro. Off. Mach.
MIS COURSE NUMBER: 351
DESCRIPTION:

Subject matter and practice activities designed to develop basic operating skill on two or more types of office machines. These machines include: typewriting, calculating, duplicating, dictating and transcribing, addressing and mailing, lettering, posting, and data entry. Courses mapped into this course description, such as duplicating and dictating machines, will not fit into any of the other descriptions.

FULL NAME: Introduction to Woodworking
ABBREVIATED NAME: Intro. Woodwork.
MIS COURSE NUMBER: 787
DESCRIPTION:

A course of organized learning experiences concerned with the basic knowledges and skills fundamental to woodworking and the materials and construction techniques involved in millwork.

FULL NAME: Landscape Business Management
ABBREVIATED NAME: Landscape BM
MIS COURSE NUMBER: 143
DESCRIPTION:

After successfully completing an introductory ornamental horticulture course and one or more courses dealing with landscaping information, techniques, and procedures, the student will use this knowledge, coupled with a study and practice in using business management procedures, to become proficient in managing a landscape horticulture business. Among areas of study included are buying materials and supplies, financing, records and record keeping, marketing, government relationships, social security laws, sales tax, income tax, job estimation, labor management, labor laws, credit, preparing income and net worth statements, and preparing a cash flow sheet projection. Students should receive practical experience either at home, in the school laboratory, or other facility.

FULL NAME: Landscaping
ABBREVIATED NAME: Landscaping
MIS COURSE NUMBER: 144
DESCRIPTION:

Classroom, field, shop and laboratory experiences involved with the principles and practices of locating, planting and maintaining turf, plants, shrubs, trees, or devices for the beautification of the home, institutional, or industry grounds. Assigned drawings and projected landscape plans will occupy a major portion of the class time. Students should receive practical experience either at home, in the school laboratory, or other facility.

FULL NAME: Law Enforcement Laboratory
ABBREVIATED NAME: Law Enfor. Lab.
MIS COURSE NUMBER: 945
DESCRIPTION:

Emphasis will be on individualized instruction in communications, photography, and use and care of scientific laboratory equipment as they apply to the law enforcement field.

FULL NAME: Legal Secretary
ABBREVIATED NAME: Legal Secretary
MIS COURSE NUMBER: 315
DESCRIPTION:

This course provides a combination of subject matter and skills-development activities in the legal secretarial area. Emphasis is on duties and procedures peculiar to the legal field and on refining and improving dictation and transcription skills in this field. The course includes legal shorthand dictation; typing of wills, codicils, briefs, transcripts, abstracts and testimonies; dictaphone usage; legal terminology, and legal filing and bookkeeping.

FULL NAME: Machine Shop I
ABBREVIATED NAME: Machine Shop 1
MIS COURSE NUMBER: 751
DESCRIPTION:

This course provides learning experiences concerned with all aspects of shaping metal parts. Instruction in making computations related to work dimensions, tooling, and setting feeds and speeds of machines. Also emphasized are work on the bench and on lathes, shapers, milling machines, grinders and drills, the use of precision measuring instruments such as layout tools, micrometers and gauges; heat treatment; blueprint readings; and the layout of parts.

FULL NAME: Machine Shop II
ABBREVIATED NAME: Machine Shop 2
MIS COURSE NUMBER: 752
DESCRIPTION:

This course is a continuation of the 11th grade course providing learning experiences concerned with all aspects of shaping metal parts. This course is articulated with the 11th grade course in such a manner that the student is afforded additional information and experiences relevant to machine shop occupations. The emphasis is upon the development of knowledge and skills necessary for the graduating student to enter a machine shop occupation or pursue further training.

FULL NAME: Machine Shorthand I
ABBREVIATED NAME: Mach. Shorthd. 1
MIS COURSE NUMBER: 316
DESCRIPTION:

This course covers the theory of machine shorthand, emphasizing reading, writing skills, dictation, and transcription. Intensive speed building in taking of machine shorthand notes and typewritten transcription of mailable letters usually are stressed during the second semester of this course. There is an integration of machine shorthand, typing, and language skills.

FULL NAME: Marketing Cooperative (O. E.)
ABBREVIATED NAME: Dist. Educ. Co-op
MIS COURSE NUMBER: 060
DESCRIPTION:

This course is designed as the capstone course of a sequence of courses leading to a specific training objective in marketing occupations. The students receive on-the-job training related to their identified career objective while enrolled in a related class offering an organized course of study.

FULL NAME: Medical Assistant Skills
ABBREVIATED NAME: Med. Asst. Skill
MIS COURSE NUMBER: 505
DESCRIPTION:

Classroom, laboratory, and extended campus and/or cooperative education. The following courses prior to entering this course are desirable: typing, filing, recordkeeping, and anatomy and physiology. Units of instruction to include are understanding the health problems of patients, medical law and ethics, human relations and interpersonal relationships, medical histories, office procedure, recordkeeping, insurance forms and requisitions, and patient care procedures. Patient care procedures include examination room techniques, sterile technique, care of equipment and supplies, and emergency care.

FULL NAME: Medical Laboratory Assisting (Aide)
ABBREVIATED NAME: Med. Lab. Assting.
MIS COURSE NUMBER: 506
DESCRIPTION:

Units of instruction are department procedure policies and standards, interdepartmental relationship, laboratory requisitions and reports, care of laboratory equipment, aseptic and sterile techniques, basic laboratory mathematics (metrics), quality control, handling of specimens, blood collection techniques, and introduction to the department of clinical pathology. Always combine the principles in the unit's instruction with practical applications and practice. Most secondary programs, with the exception of the area vocational centers or large urban schools, will need to plan an extended campus and/or cooperative education experience along with the in-school classroom and laboratory activities as the cost of equipping an in-school laboratory may be prohibitive.

FULL NAME: Medical Secretary
ABBREVIATED NAME: Med. Secretary
MIS COURSE NUMBER: 317
DESCRIPTION:

This course provides a combination of subject matter and skills-development activities in the medical secretarial area. Emphasis is on duties and procedures peculiar to medical offices or hospitals, and on refining and improving dictation and transcription skills in the area. The course includes medical shorthand dictation, insurance forms, dictaphone usage, medical terminology, medical filing, and bookkeeping.

FULL NAME: Metalworking
ABBREVIATED NAME: Metalworking
MIS COURSE NUMBER: 753
DESCRIPTION:

This course is a continuation of the 9th grade orientation course and is designed to provide the learning experiences for the student to understand the kinds of knowledge and skills required for successful performance in occupations in the metals industry, to develop an awareness of occupational opportunities within the industry, and to acquire basic knowledge and skills necessary as a foundation for further specialized training. The course includes instruction and experiences in metalworking, sheet metal, wrought metal, forging, heat treating, foundry, welding, and machine shop.

FULL NAME: Millwork and Cabinet Making I
ABBREVIATED NAME: Mlwk. & Cab. Mkg. 1
MIS COURSE NUMBER: 754
DESCRIPTION:

This course provides learning experiences related to the production of wood products such as window frames, moldings, trim and panels, as well as products such as furniture, store fixtures, kitchen cabinets, and office equipment. Instruction includes experiences in cutting, shaping, and assembling by means of hand tools and woodworking machines, refinishing, installing hardware, planning layouts, blueprint reading, and the properties of various kinds of woods.

FULL NAME: Millwork and Cabinet Making II
ABBREVIATED NAME: Mlwk. & Cab. Mkg. 2
MIS COURSE NUMBER: 755
DESCRIPTION:

This course is a continuation of the 11th grade course providing learning experiences concerned with the production of wood products. This course is articulated with the 11th grade course in such a manner that the student is afforded additional information and experiences relevant to millwork and cabinetmaking occupations. The emphasis is upon the development of knowledge and skills necessary for the graduating student to enter a millwork and cabinetmaking occupation or pursue further training.

FULL NAME: Model Office
ABBREVIATED NAME: Model Office
MIS COURSE NUMBER: 318
DESCRIPTION:

This is a capstone course designed to assist students who are training for office occupations to develop into effective business employees by providing them actual on-the-job training through office simulation on various office jobs. Classroom instruction includes work experience in a model office. Assignment areas in the model office may include receptionist, clerical pool, duplicating, private secretary, transcribing, address and mail, word processing, business machines, resource center, business filing, payroll, marketing and management, stenography, recordkeeping, and taxes. When the student becomes proficient in the skills of one department, he or she may receive supervisory experience or he or she is transferred to another department.

FULL NAME: Mortuary Aide
ABBREVIATED NAME: Mortuary Aide
MIS COURSE NUMBER: 507
DESCRIPTION:

Classroom and extended and/or cooperative education. The units of instruction should include interpersonal relationships, religious concepts pertaining to care of the dead, the purpose of the ceremony, flower arrangement, anatomy and physiology, public health standards, records and reports, and psychological support to the family.

FULL NAME: Needle Trades
ABBREVIATED NAME: Needle Trades
MIS COURSE NUMBER: 946
DESCRIPTION:

This course is designed as an advanced industrial sewing course. Experiences are designed to meet individual needs in developing skills related to employment in the field. Experiences are planned to aid the student in developing a higher level of skill and speed, an ability to use a wider variety of industrial equipment, and knowledge and skill in the construction of an increased number of types of garments and projects. Throughout the course there is an emphasis on accuracy, speed, and management techniques. This course may also provide opportunities for developing some of the more specialized skills, such as pressing, hand finishing, and inspecting.

FULL NAME: Nucleonics Technician Skills
ABBREVIATED NAME: Nuc. Tech. Skill
MIS COURSE NUMBER: 508
DESCRIPTION:

Classroom, laboratory, and extended campus and/or cooperative education. This course is a combination of knowledges and skills to prepare the technician to perform safely and competently in the Radiologic Department. The units of instruction include detection and identification of radiation, effects of radiation, protection from radiation, laboratory experiences, and simulating practical applications. Most of the instruction takes place in the classroom and in-school laboratory; experience gained in the health care facility is always desirable. Students working with radioactive materials must be monitored according to the public health law.

FULL NAME: Nurse Assistant Skills
ABBREVIATED NAME: Nurs. Asst. Skill
MIS COURSE NUMBER: 511
DESCRIPTION:

Classroom, laboratory, and extended campus and/or cooperative education. Units of instruction are taught concurrently with practical application. The units are designed to prepare the nurse assistant to give physical, social, and psychological support to the patient in the performance of patient care skills. Units of instruction to include are the role of the nurse assistant, observing and reporting, care of equipment and supplies, procedure policies, the patient and environment, special feeding techniques, psychological support in long-term and terminal illness, death and dying, and all basic nursing skills such as isolation techniques, admitting and discharging, heat and cold applications, vital signs, assisting with the physical examination, collecting specimens, measuring and disposing of fluids and waste matter, bathing, and ambulation.

FULL NAME: Nursery Operation and Management
ABBREVIATED NAME: Nurs. Op. & Mgt.
MIS COURSE NUMBER: 145
DESCRIPTION:

Classroom, laboratory, and field experiences related to a study of the operational methods and commercial practices involved in the production of nursery plants and scheduling of plant growing facilities. Students should receive practical experience either at home, in the school laboratory, or other facility.

FULL NAME: Nutrition and Feeds
ABBREVIATED NAME: Nutr. & Feeds
MIS COURSE NUMBER: 146
DESCRIPTION:

Planned learning activities and experiences designed to include animal nutrient requirements, types of feed, methods of feeding, and which foods supply specific nutrients. Included are domestic animal needs, as well as for wildlife. Specific activities should include methods of providing food and its effect on the animal. Students should receive practical experience either at home, in the school laboratory, or other facility.

FULL NAME: Occupational Clothing Construction
ABBREVIATED NAME: Occ. Clo. Const.
MIS COURSE NUMBER: 914
DESCRIPTION:

This course is designed as an advanced level occupational clothing construction course to provide an opportunity for a student to develop a high level of clothing construction skills and specialized techniques. Experiences are planned as individualized instruction to allow the student to progress at a rate of ability and to pursue the phase of clothing construction for which he or she has an interest and aptitude, and for which there are job opportunities in their area. Students may specialize in such areas as clothing for children, men and women, hand-finishing for industry, dressmaking, clothing accessories, and tailoring. Also included are experiences related to operating a home-based or small shop, meeting and pleasing the public, management techniques, labor laws, safety practices, and selection and use of specialized sewing equipment.

FULL NAME: Occupational Furnishing
ABBREVIATED NAME: Occup. Furn.
MIS COURSE NUMBER: 934
DESCRIPTION:

This course is usually designed to meet the needs of individual student career objectives and the employment opportunities in the area. Individualized instruction is often necessary to provide each student with the experiences needed to develop the job competencies identified for the jobs available. Included are classroom and laboratory experiences in household textiles, color, line and design coordination, materials used for furnishings and furniture, furniture construction, history and trends of housing and home furnishings, housing and home furnishings' relationship to the socioeconomic conditions of society, individual values and needs related to environments, and other areas related to the individual needs of students. The students are provided with experiences in selecting and coordinating furnishings and accessories to satisfy the needs and personal tastes of the customer. Emphasized throughout the course is the development of personal characteristics applicable to the job, opportunities for career advancement, and laws applicable to the field.

FULL NAME: Occupational Housekeeping
ABBREVIATED NAME: Occ. Housekeep.
MIS COURSE NUMBER: 941
DESCRIPTION:

This course includes planned occupational education classroom and laboratory experiences which provide opportunities for students to develop the skill, concepts, and attitudes needed for entry-level employment in institutional housekeeping and supporting services. Areas of study will include institutional housekeeping principles and techniques, organization of time, use and care of cleaning equipment, materials and supplies, safety and sanitation procedures, human relations, and security and protection measures. Laboratory experiences are planned to simulate the working conditions in which the employee would be expected to perform when employed as a housekeeping aide or custodian in a hotel, motel, hospital, or other institutional setting. Many of the learning experiences will need to be planned on an individual basis according to career objectives of the student and jobs available in a given area.

FULL NAME: Office Machines
ABBREVIATED NAME: Office Machines
MIS COURSE NUMBER: 321
DESCRIPTION:

This course is designed to give students fundamental knowledge of solving business problems with the use of business machines. Business machines usually taught include; adding - ten-key and full key; calculators - electronic, rotary, printing, and key-driven; duplicators - fluid and stencil; transcribing machines; filing, switchboard, bookkeeping, and photo-copying machines. Students may also receive training relative to data processing, including instruction on the key-punch machine or key-punch simulation, giving the student knowledge of keyboard techniques for a key-punch machine. Usually, all small business machines found in the modern office are introduced and operated by the students. The machines taught should be those that will be used by students in the business community where students find employment.

FULL NAME: Office Occupations Cooperative Education
ABBREVIATED NAME: Off. Occ. COED
MIS COURSE NUMBER: 309
DESCRIPTION:

This cooperative vocational program is a capstone course designed to assist students who are training for office occupations to develop into effective business employees by providing them with practical advanced instruction in school and on-the-job, usually as typists, stenographers, receptionists, or bookkeepers in local offices. Class work at school may be largely clerical, secretarial, accounting, or data processing except that additional work is given to students in individual areas where their performance on-the-job shows a need for it. Class time is usually devoted to group and individual study of the use of the telephone, switchboard operation, good grooming, office relationships, accounting, office machines, filing and records management, office techniques, production typing, advanced shorthand speed building and transcription, fundamentals of electronic data processing, and applying for a job. Related instruction also is oriented to the development of character and traits and basic world-of-work relations. Class work at school is correlated with actual job experience in a business office. Usually half of the school day is spent taking classes and the other half, on-the-job training. The body of subject matter is usually organized into programs of instruction to provide opportunities for pupils to prepare for and achieve career objectives in selected occupations.

FULL NAME: Orientation to Business, Marketing, and Management Occupations
ABBREVIATED NAME: Ort. to BMM Occ.
MIS COURSE NUMBER: 390
DESCRIPTION:

This course is an orientation toward the competencies, activities, and attitudes utilized in occupations within the business, marketing, and management occupational area. This course may be part of a course which is a two-semester course and generally called Orientation to Occupational Education or Orientation to Careers. Careers which students are exposed to in the business, marketing, and management cluster include an exposure to the performance of activities used in the flow of goods and services from the producer to the user or consumer, such as sales supporting functions as warehousing, buying, transporting, promoting, financing, research and management, and the wide range of occupations involving the facilitating function of an office. Students will gain an appreciation, as well as an understanding, of career opportunities which are to be found in business, marketing, and management occupations. Students will be given an opportunity to decide which area of employment best suits them through the use of films, field trips, guest speakers, and other activities. Activities will include actual participation in the type of work done by persons currently employed in this field. The content of this course will vary from community to community since its specific input is so closely related to the resources of the community. Orientation of students should be to those occupations found within the employing community of the students.

FULL NAME: Orientation to Food Production
ABBREVIATED NAME: Ort. Food Prod.
MIS COURSE NUMBER: 927
DESCRIPTION:

This course is designed to give students adequate experiences with the basic food principles and preparation techniques to aid them in making a decision concerning further training in food service. The course also includes an emphasis on safety, sanitation, nutrition, quantity food equipment, table setting and service, and information and experiences about the food service industry.

FULL NAME: Orientation to Industrial Occupations
ABBREVIATED NAME: Ort. to Ind. Occ.
MIS COURSE NUMBER: 790
DESCRIPTION:

This course provides the student an opportunity to explore the various industrial occupations. Employability skills such as employer/employee relations, applying for work, personal grooming, and desirable work habits are emphasized, as well as basic information and hands-on experiences applicable to a number of occupational areas including: aerospace, construction, electricity, electronics, drafting, graphic arts, metals, plastics, mechanics, and woods. Effective use of audio-visuals supplement the course material.

FULL NAME: Orientation to Institutional Housekeeping
ABBREVIATED NAME: Ort. Inst. Hsekp.
MIS COURSE NUMBER: 943
DESCRIPTION:

This course introduces the student to basic maintenance procedures and the importance of an orderly environment. Areas of study will include effective use of time and energy, types of commercial equipment and principles of institutional cleaning, the benefits and evidences of an orderly environment and institutional storage, and maintenance techniques. Students will be exposed to career opportunities in institutional housekeeping in a wide variety of private and public facilities.

FULL NAME: Orientation Ornamental Horticulture
ABBREVIATED NAME: Orient. Orn. Hort.
MIS COURSE NUMBER: 120
DESCRIPTION:

A beginning course that explores the wide variety of occupational opportunities in the production-oriented, the technical-oriented, the sales and service-oriented, and related occupational areas of Arboriculture, Nursery Operation and Management, Greenhouse Operation and Management, Floriculture, Turf Management, and Horticulture Mechanics. Students will take a prescribed course exploring each area with opportunities for classroom, shop, field, laboratory, and greenhouse hands-on experiences. Students should receive practical experience either at home, in the school laboratory, or other facility.

FULL NAME: Orientation to Personal and Public Service Occupations
ABBREVIATED NAME: Ort. to PPS Occ.
MIS COURSE NUMBER: 990
DESCRIPTION:

This course is a comprehensive orientation course, including a combination of class and laboratory experiences planned to introduce the students to the knowledge and skills related to the total field of Personal and Public Service Occupations. This course includes such units as orientation to the world of work, the role of men and women in today's society, relationships as related to personal fulfillment, and employment success. Also included are units in all subject matter areas of the field in which sequential programs are available to the students with youth group activities being an integral part of the course. Within each unit is included occupational information and experiences pertaining to the jobs and careers where the needed competencies require knowledge and skills related to that unit.

FULL NAME: Orientation to Public Service Careers
ABBREVIATED NAME: Ort. Pub. Ser. Car.
MIS COURSE NUMBER: 948
DESCRIPTION:

This course is designed to provide the students with knowledge and understanding of the eight major occupational groups and the thirty-nine entry-level jobs identified with the public service cluster. Also included are areas of skill common to all public service jobs - - communications, grooming, interpersonal relationships, and decision-making. By the end of this course, the students should be able to decide if a public service career is feasible for them and, if so, the major occupational group in which they are interested in preparing for entry-level work during the occupational preparation levels.

FULL NAME: Ornamental Horticulture Mechanics
ABBREVIATED NAME: Orn. Hort. Mech.
MIS COURSE NUMBER: 147
DESCRIPTION:

Organized subject matter and practices in the classroom, field, and shop involved with studying and developing skills in the proper selection, care, use, maintenance, and adjustment of horticulture facilities, machinery, and equipment. Students should receive practical experience either at home, in the school laboratory, or other facility.

FULL NAME: Personal and Public Service Occupations Cooperative Education
ABBREVIATED NAME: PPS Occ. COED
MIS COURSE NUMBER: 999
DESCRIPTION:

Personal and Public Service Occupations - - Cooperative Education is the capstone course of sequential programs with the students receiving on-the-job training related to their identified career objective. The students are enrolled in a related class plus working several hours a day on the job. The typical student is over 16 years of age, works according to a training plan, and is paid as an entry-level employee. The co-op program is coordinated by the teacher in consultation with employer and parents. The related class includes general and specific class instruction. The general instruction includes such areas as employer-employee relationships, applying and interviewing for jobs, labor laws, safety on the job, personal characteristics contributing to job success, money management, taxes, and other general topics related to employment. The specific class instruction includes solving problems concerning specific jobs, increasing knowledge and skills needed for the job, and pursuing additional information concerning additional training and career possibilities of a field.

FULL NAME: Pharmacy Aide Skills
ABBREVIATED NAME: Pharm. Aid Skill
MIS COURSE NUMBER: 512
DESCRIPTION:

Classroom and extended campus and/or cooperative education. The content of instruction includes typing labels, filing requisitions, checking and ordering supplies, interdepartmental communications, pharmacological terminology, drug dispensing, drugs and dosages, the Unit Dosage System, physician's drug order sheet, and quality control.

FULL NAME: Physical Therapy Skills
ABBREVIATED NAME: Phys. Ther. Skill
MIS COURSE NUMBER: 513
DESCRIPTION:

Classroom, laboratory, and extended campus and/or cooperative education. This course content includes the units of instruction and skills necessary to perform competently as a physical therapy aide. The units of instruction include the organizational structure of the physical therapy department, relationships of anatomical structures to normal and abnormal movement (building upon the unit of body systems in an earlier course:, patho-physiological conditions resulting from injury and disease, terminology, recordkeeping and interpersonal relationships within the physical therapy department. In addition, the student must learn the following procedures: First Aid, body mechanics, basic principles and uses of electricity, heat and water in applying hot and cold packs, paraffin, whirlpool, diathermy, microwave, etc., basic principles and use of massage, use of assistive and supportive devices, therapeutic exercises, and tractions.

FULL NAME: Plant and Animal Science
ABBREVIATED NAME: Plt. & Anl. Sci.
MIS COURSE NUMBER: 148
DESCRIPTION:

A combination of subject matter learnings and experiences in the classroom, field, and shop that build on learnings attained in Basic Plant and Animal Science. Students develop additional competencies and become more specialty directed in their career objectives. A student-supervised experience program is an expected outcome when enrolled in this course.

FULL NAME: Plant Science
ABBREVIATED NAME: Plant Science
MIS COURSE NUMBER: 151
DESCRIPTION:

Planned learning experiences which are concerned with the study and operations dealing with principles and practices involved in the culture and production of agricultural plants. The areas included are feed grains, trees, fruit, vegetable, and ornamental crops, as well as crop soils, nutrition of plants, plant disease, pathology, and related studies. Students should have a related experience program with recordkeeping instruction either at home, at school or in the community. Classroom, laboratory, and field experiences are essential aspects of a quality program.

FULL NAME: Plant Science Specialty
ABBREVIATED NAME: Plt. Sci. Spec.
MIS COURSE NUMBER: 152
DESCRIPTION:

From learnings and interest gained from a course in plant science, the student has an opportunity to study, nurture, and grow a plant or group of plants according to his or her occupational interest. This course will provide an opportunity for a greater in-depth study of a smaller group of plants. Field, laboratory, and greenhouse work will occupy a large portion of class time. Students should receive practical experiences either at home, in the school laboratory, or other facility.

FULL NAME: Plant Science Specialty Business Management
ABBREVIATED NAME: Plt. Sci. Spec. BM
MIS COURSE NUMBER: 153
DESCRIPTION:

This is an advanced course for students who have taken prescribed courses in a plant science sequence. The predominant purpose is to provide business management training particularly suited to the area of plant specialty. Facilities and equipment, staffing, financing, recordkeeping, sales and service, personnel management, public relations, etc., are potential areas of experience. Students should receive practical experience either at home, in the school laboratory complex, or some similar facility.

FULL NAME: Plastics
ABBREVIATED NAME: Plastics
MIS COURSE NUMBER: 756
DESCRIPTION:

This course is a continuation of the 9th grade industrial orientation course and is designed to provide the learning experiences necessary for the student to understand the kinds of knowledge and skills required for successful performance in occupations in the plastics industry, to develop an awareness of occupational opportunities within the industry, and to acquire basic knowledge and skills necessary as a foundation for further specialized training. The course includes instruction and experiences in the materials and processes of the industry including cold-mold plastics, thermoplastics, extrusion and injection molding, compression and transfer molding, laminated and reinforced plastics, material selection, and product design.

FULL NAME: Plastics Occupations I
ABBREVIATED NAME: Plastics Occ. 1
MIS COURSE NUMBER: 757
DESCRIPTION:

This course provides learning experiences in the use of thermoplastic materials and production processes such as compression, transfer, injection, blow, extrusion, and rotational molding, as well as sheet and film thermoforming methods to form a finished plastic product. Instruction includes characteristics of plastics, finishing plastics, and the use of hand and power tools.

FULL NAME: Plastics Occupations II
ABBREVIATED NAME: Plastics Occ. 2
MIS COURSE NUMBER: 758
DESCRIPTION:

This course is a continuation of the 11th grade course providing learning experiences concerned with forming and finishing thermoplastic materials into finished products. This course is articulated with the 11th grade course in such a manner that the student is afforded additional information and experiences relevant to the plastics occupations. The emphasis is upon the development of knowledge and skills necessary for the graduating student to enter a plastics occupation or pursue further training.

FULL NAME: Power Mechanics
ABBREVIATED NAME: Power Mechanics
MIS COURSE NUMBER: 761
DESCRIPTION:

This course is a continuation of the 9th grade industrial orientation course and is designed to provide the learning experiences for the student to understand the kinds of knowledge and skills required for successful performance in occupations in the mechanical trades, to develop an awareness of occupational opportunities within the industry, and to acquire basic knowledge and skills necessary as a foundation for further specialized training. This course includes instruction and experiences in internal combustion engines, steam engines, turbines, rocket engines, and the transmission of power. Optional topics could include electrical energy, atomic energy, and solar energy.

FULL NAME: Practical Nursing Skills
ABBREVIATED NAME: Prac. Nurs. Skill
MIS COURSE NUMBER 514
DESCRIPTION:

Classroom, laboratory, and clinical experiences. The units of instruction for this course generally include interpersonal relationships, physiological, psychological and sociological principles and needs of patients in nursing care, basic skills, nutrition and preparation of foods to meet special dietary needs, basic science concepts, body structure and function. Instructional content and clinical practice take place concurrently.

FULL NAME: Principles of Marketing
ABBREVIATED NAME: Prin. of Mkting.
MIS COURSE NUMBER: 322
DESCRIPTION:

Planned learning experiences which are concerned with the activities utilized in the process of marketing and transporting goods and services from the producer to the consumer and/or user, including the competitive systems as exist in careers in sales, finance, insurance, transportation, promotion, merchandising, and management.

FULL NAME: Profitable Sewing
ABBREVIATED NAME: Profit. Sewing
MIS COURSE NUMBER: 947
DESCRIPTION:

This course is designed to provide students with the opportunity to gain proficiency in advanced occupational skills and techniques of construction. Preparation for employment is provided through experiences in constructing garments for others, fitting a variety of figure types and construction projects for men, women, and children. Opportunities are provided for students to practice techniques until they have developed a level of skill acceptable on the job market. Included are advanced experiences in selection and use of equipment, pressing techniques, flat pattern work using a variety of fabrics, and additional construction skills as needed to develop competencies related to available employment.

FULL NAME: Programming
ABBREVIATED NAME: Programming
MIS COURSE NUMBER: 323
DESCRIPTION:

Course objectives are to prepare students for advanced work and to develop logical thought processes. Language concepts are broadened and students write computer programs and run them. Advanced flow charting, system design, and other types of advanced work are examples of units taught. This course is usually very problem-oriented to develop more skill and knowledge in the usage of the various data processing machines in more detailed business applications.

FULL NAME: Punch Card Data Input
ABBREVIATED NAME: Pun. Cd. Data Inp.
MIS COURSE NUMBER: 324
DESCRIPTION:

This course may be a semester or a two-semester course depending upon the content chosen for the course. Usually the course includes practice on drum cards, alternate programming, setting up and punching from source documents and verifying, data input on key-tape, and improvement of speed and accuracy in utilizing the key-punch keyboard. The student becomes familiar with basic requirements of a data processing system through "problem solving" skills projects, discussion of key punching problems, punched card field layout and design. There is much detailed work in punched card data processing. Topics will include use of card-oriented computer systems, card design and layout, punched card machine functions, forms designs, and procedure development.

FULL NAME: Public Service Occupations I
ABBREVIATED NAME: Pub. Serv. Occ. 1
MIS COURSE NUMBER: 951
DESCRIPTION:

This course includes individualized, planned educational experiences which provide the student with the opportunities needed to develop entry-level competencies which will qualify them for employment in one of the eight major occupational groups in public service. The course is concerned with the fundamental concepts of government jobs and their service in meeting specified needs of segments of the public for the betterment of society.

FULL NAME: Public Service Occupations II
ABBREVIATED NAME: Pub. Serv. Occ. 2
MIS COURSE NUMBER: 952
DESCRIPTION:

This course is designed as an advanced level course to provide students with the necessary experiences needed to develop the knowledge and skills which would qualify them for employment in one of the major job families of the major occupational group of their career choice. Specialized experiences are planned according to identified job opportunities in municipal, county, state or federal organizations or agencies in the area. Practical educational work experience is a part of the program.

FULL NAME: Quantity Foods
ABBREVIATED NAME: Quantity Foods
MIS COURSE NUMBER: 926
DESCRIPTION:

This course is planned to provide students interested in pursuing a course in the food service industry with additional knowledge of food and nutrition, facts concerning the history and trends of the industry, laboratory experiences simulated to job opportunities and equipment in the area, and other experiences needed to gain the job competencies related to their career objective. There is an emphasis in the course on safety, sanitation, quantity preparation, product quality, personal qualifications for employment, food storage, cost and portion control, and serving of food. Some provision is made for a commercial outlet of the food produced in quantity. Emphasis is on experiences simulating such actual job situations as short order cook, grill cook, baker helper, salad maker, pastry maker, cook helper, etc.

FULL NAME: Radio and Television Service I
ABBREVIATED NAME: Radio & TV Serv. 1
MIS COURSE NUMBER: 762
DESCRIPTION:

This course provides organized, specialized, theoretical, and practical learning experiences concerned with the maintenance and repair of radios, television sets, sound equipment, phonographs, and tape recorders. Instruction includes a review of basic DC and AC concepts, circuits, and components; the use of service literature, safety procedures, basic troubleshooting, recorders, troubleshooting actual circuitry, alignment and adjustment procedures, use and care of test and alignment equipment, hand and power tools, and business practices and customer relations.

FULL NAME: Radio and Television Service II
ABBREVIATED NAME: Radio & TV Ser. 2
MIS COURSE NUMBER: 763
DESCRIPTION:

This course is a continuation of the 11th grade course and provides learning experiences in maintaining and repairing radios, television sets, sound equipment, phonographs and tape recorders. This course is articulated with the 11th grade course in such a manner that the student is afforded additional information and experiences relevant to the radio and television service occupations. The emphasis is placed upon the development of theoretical and practical skills necessary for the graduating student to enter a radio and television service occupation or pursue further training.

FULL NAME: Radiologic Aide Skills
ABBREVIATED NAME: Radio. Aid Skill
MIS COURSE NUMBER: 515
DESCRIPTION:

Classroom and extended campus and/or cooperative education. The course content includes the units of instruction and skills necessary to perform competently as a radiologic aide. The units of instruction include the structure of the interdepartmental communications, positioning for therapy, the patient's record and X-ray reports, observing and reporting, types of therapy, malignancy and therapy, nuclear radiation, terminology, and safety in transporting patients. Students working with radioactive materials must be monitored according to the public health laws.

FULL NAME: Recordkeeping
ABBREVIATED NAME: Recordkeeping
MIS COURSE NUMBER: 325
DESCRIPTION:

This course is usually offered to give students an understanding of the principles and procedures for planning, managing, and recording the business transactions which most individuals are exposed to in their personal and occupational life. This course usually provides minimal training for certain clerical jobs involving routine activities. The less than average ability student may take recordkeeping as a foundation for an accounting course. This is a course of study in the fundamental principles of financial recordkeeping common to a great many general office and sales positions. It is designed for students whose career objectives do not require the depth of understanding of business records required of a full- or part-time bookkeeper, but rather some knowledge of recordkeeping as a secondary or related skill. It is designed to meet the needs of those students who are interested in general office and/or sales positions, who have evidenced difficulty in abstract reasoning and problem solving, and who have considerable difficulty in following the regular bookkeeping and accounting course of study.

FULL NAME: Recreational Therapy Aide Skills
ABBREVIATED NAME: Rec. Ther. Aid Sk.
MIS COURSE NUMBER: 516
DESCRIPTION:

Classroom, laboratory, and extended campus and/or cooperative education. Units of instruction to prepare the recreational therapy aide with the competencies needed are community resources, public relations, meeting the needs of the disabled and handicapped through recreation, scheduling and recordkeeping, activities for the individual and groups, maintenance of equipment, ordering supplies, interdepartmental relationships, special therapy techniques, and activities of daily living.

FULL NAME: Refrigeration I
ABBREVIATED NAME: Refrigeration 1
MIS COURSE NUMBER: 764
DESCRIPTION:

This course provides classroom and shop experiences concerned with commercial chilling and freezing systems including the theory, application, and operation of compressors, expansion and float valves, thermostat and pressure control systems. Instruction also includes diagnostic, repair and testing techniques, charging and discharging systems with refrigerants, and the testing of hermetic units, relays, and overload devices.

FULL NAME: Refrigeration II
ABBREVIATED NAME: Refrigeration 2
MIS COURSE NUMBER: 765
DESCRIPTION:

This course is a continuation of the 11th grade course and provides learning experiences in maintaining, repairing, and testing commercial chilling and freezing systems. The course is articulated with the 11th grade course in such a manner that the student is afforded additional information and experiences relevant to refrigeration occupations. The emphasis is placed upon the development of theoretical and practical skills necessary for the graduating student to enter a refrigeration occupation or pursue further training.

FULL NAME: Rehabilitation Aide Skills
ABBREVIATED NAME: Rehab. Aid Skil
MIS COURSE NUMBER: 517
DESCRIPTION:

Classroom, laboratory, and extended campus and/or cooperative education. This course content includes the units of instruction and skills necessary to perform competently as a rehabilitation aide. The core content of this course will include basic knowledges and skills of nursing, occupational therapy, and physical therapy. For further explanation of the content of this course, see the 12th grade level course descriptions of nurse assistant, recreational therapy aide, and physical therapy aide.

FULL NAME: Respiratory Therapy Aide Skills
ABBREVIATED NAME: Res. Ther. Aid Sk.
MIS COURSE NUMBER: 518
DESCRIPTION:

Classroom, extended campus, and/or cooperative education. The content of this course prepares the student with the competencies to perform as a respiratory therapy aide under the direction of the therapist. The content may include the basic nurse assistant skills of positioning the bed and patient, transporting the patient, oral care, collection of specimens, disposing of wastes. The student learns the anatomy and physiology of the respiratory system, disassembling various respiratory circuit and aerosol equipment, administering oxygen, IPPB machines, humidifiers, aerosol generators, and performing limited clerical duties.

FULL NAME: Retailing
ABBREVIATED NAME: Retailing
MIS COURSE NUMBER: 326
DESCRIPTION:

Organized learning activities which emphasize, in general, the opportunities in, the development of, and the present operating and management methods in the retailing of goods to the consumer. Usually it includes analysis of major store functions, procedures, and policies together with career opportunities and development.

FULL NAME: Salesmanship
ABBREVIATED NAME: Salesmanship
MIS COURSE NUMBER: 327
DESCRIPTION:

Planned learning experiences emphasizing the psychological and economic impact of selling and the fundamental competencies required for sales techniques in industrial, wholesale and retail levels, and including consumer buying motives, creating product acceptance, building good will, and varied effective applications toward tangible and intangible sales.

FULL NAME: Seamanship I
ABBREVIATED NAME: Seamanship 1
MIS COURSE NUMBER: 766
DESCRIPTION:

Specialized classroom instruction and skill development that deals with rigging and deck equipment, wire and lines and their handling and uses, uses of knots and how to splice lines and wire, use of safety gear and procedures, types of barges, equipment on the boat and general maintenance.

FULL NAME: Seamanship II
ABBREVIATED NAME: Seamanship 2
MIS COURSE NUMBER: 767
DESCRIPTION:

Specialized classroom instruction and skill development that deals with the manipulation of barges and tows and how to make a tow, drop, spot, switch a tow, make a lock and general maintenance.

FULL NAME: Secretarial Office Practice
ABBREVIATED NAME: Sec. Off. Prac.
MIS COURSE NUMBER 328
DESCRIPTION:

This is a capstone course designed to prepare secretarial office practice students for immediate employment upon graduation. This course usually emphasizes office etiquette, proper business behavior, occupational information, filing, typing, and machine techniques, as well as a review of business grammar and business mathematics. Skills and understandings previously learned may be reviewed, while office procedures and techniques that have not been included in other courses are introduced. These old and new understandings and skills may be integrated by completing a series of realistic office assignments. Students master secretarial skills, and previous training is usually required in the area of shorthand. Training may also be given in the use of the voice-writing equipment, in all kinds of office-style dictation and transcription, letter composition, handling of mail, and receiving callers. Emphasis is placed on developing desirable personality traits and work habits necessary in actual office situations. Classroom instruction may be work experience in a model office. Assignment areas in the model office may include receptionist, clerical pool, duplicating, private secretary, transcribing, address and mail, word processing, business machines, resource center, business filing, payroll, marketing and management, stenography, recordkeeping, and taxes. When the student becomes proficient in the skills of one department, he or she may receive supervisory experience or he or she is transferred to another department.

FULL NAME: Sheet Metal I
ABBREVIATED NAME: Sheet Metal 1
MIS COURSE NUMBER: 768
DESCRIPTION:

This course provides learning experiences concerned with the layout, fabrication, installation, and maintenance of items made of steel, copper and aluminum, such as ventilating, air conditioning and heating ducts, kitchen equipment, signs and furniture. Instruction includes the safe use of hand tools and machines such as the cornice brake, forming rolls, and squaring shears. Drafting methods and blueprint reading related to sheet metal occupations are also emphasized.

FULL NAME: Sheet Metal II
ABBREVIATED NAME: Sheet Metal 2
MIS COURSE NUMBER: 771
DESCRIPTION:

This course is a continuation of the 11th grade course providing learning experiences concerned with the layout, fabrication, installation, and maintenance of metal products. This course is articulated with the 11th grade course in such a manner that the student is afforded additional information and experiences relevant to sheet metal occupations. The emphasis is upon the development of knowledge and skills necessary for the graduating student to enter a sheet metal occupation or pursue further training.

FULL NAME: Small Business Management
ABBREVIATED NAME: Small Bus. Mgt.
MIS COURSE NUMBER: 333
DESCRIPTION:

A study of management functions, financial requirements, policies, and practical experiences of owners and managers of small business concerns, with emphasis on the nature of the work, characteristics, and special problems of the small businessperson in the acquiring and the successful operating of a small business.

FULL NAME: Small Engines
ABBREVIATED NAME: Small Engines
MIS COURSE NUMBER: 154
DESCRIPTION:

Planned learning activities and experiences designed to cover the operation and principles of caring for and adjusting the fuel system; selecting fuels and lubricants; caring for and adjusting the ignition system; replacing valves, rings, and bearings; tune-up, maintenance and repair of small engines commonly found in lawn mowers, garden tractors, and other small engine powered equipment. Students should receive practical experience either at home, in the school laboratory, or other facility.

FULL NAME: Small Engine Repair I
ABBREVIATED NAME: Small Eng. Rpr. 1
MIS COURSE NUMBER: 772
DESCRIPTION:

This course provides learning experiences in the maintenance and repair of a variety of small engines used on equipment such as lawnmowers, outboard motors, chain saws, recreational vehicles, rotary tillers, etc. Instruction includes principles of internal combustion engine operation, reading and utilizing technical manuals, business practices, and customer relations.

FULL NAME: Small Engine Repair II
ABBREVIATED NAME: Small Eng. Rpr. 2
MIS COURSE NUMBER: 773
DESCRIPTION:

This course is a continuation of the 11th grade course providing learning experiences concerned with the maintenance and repair of a variety of small engines. This course is articulated with the 11th grade course in such a manner that the student is afforded additional information and experiences relevant to small engine repair occupations. The emphasis is upon the development of knowledge and skills necessary for the graduating student to enter a small engine repair occupation or pursue further training.

FULL NAME: Sod Farm Management
ABBREVIATED NAME: Sod Farm Mgt.
MIS COURSE NUMBER: 155
DESCRIPTION:

This course is more specialized than the broad heading of Turf Management. Students will experience in the classroom, field, laboratory, and shop those activities that will provide knowledge and skill in performing those necessary tasks involved in working with sod farm employees, the public, sod farm equipment, supplies and materials and facilities. A student completing this course should be able to identify quality and quantity work in the sod industry and be able to perform necessary sod farm skills with a degree of competency. Students should receive practical experience either at home, in the school laboratory, or other facility.

FULL NAME: Soil and Water Management
ABBREVIATED NAME: Soil & Water Mgt.
MIS COURSE NUMBER: 156
DESCRIPTION:

Planned learning activities and experiences designed to instruct students in the properties of soil and water, soil fertility and fertilizers, and the use of tools, equipment and machinery that will enable the student to use water and soil properly to conserve our renewable natural resources. Students should receive practical experience either at home, in the school laboratory, or other facility.

FULL NAME: Shorthand I
ABBREVIATED NAME: Shorthand 1
MIS COURSE NUMBER: 331
DESCRIPTION:

This course covers the theory of shorthand, emphasizing reading - writing skills, dictation, and transcription. Intensive speed building in taking of shorthand notes, and typewritten transcription of mailable letters is usually stressed during the second semester of this one-year course. There is an integration of shorthand, typing and language skills.

FULL NAME: Shorthand II
ABBREVIATED NAME: Shorthand 2
MIS COURSE NUMBER: 332
DESCRIPTION:

This course is an extension of Shorthand I. It is designed to serve secretarial majors who want a strong shorthand skill. Intensive speed building in taking shorthand notes and typewritten transcription of mailable letters usually are the two most important units with a review of shorthand theory. Much emphasis is usually placed on transcription techniques and skills. The development of the mailable letter, using office standards, is usually one of the primary goals. Office-style dictation may also be given and letters of increasing difficulty and length may be used.

FULL NAME: Textiles
ABBREVIATED NAME: Textiles
MIS COURSE NUMBER: 953
DESCRIPTION:

This course is designed to provide students with opportunities to gain a knowledge and understanding of the field of textiles as related to the world of work. Classroom and laboratory experiences are included to aid the student in acquiring the ability to identify textile fibers, gain an understanding of the characteristics of textile fibers and fabrics, terminology of the field, type of care needed by various fabrics, uses and combinations of a variety of textiles, production of fabrics from fibers, color and design of fabrics, finishes of fabrics, and other relevant aspects of the textile field. There is an emphasis throughout the course on the relationship of basic information on federal laws and regulations as they apply to fabrics and their implications for the dry cleaning and laundering field.

FULL NAME: Trainable Mentally Handicapped
ABBREVIATED NAME: TMH (In-School)
MIS COURSE NUMBER: 071
DESCRIPTION:

A course of study designed for individuals who have a rate of intellectual development approximately 25 to 50 percent of normal and respond more slowly to education and training than do the educable mentally handicapped.

FULL NAME: Turf Management
ABBREVIATED NAME: Turf Management
MIS COURSE NUMBER: 157
DESCRIPTION:

This course provides organized subject matter and practical experiences concerned with the principles and practices involved in establishing, managing and maintaining grassed areas for ornamental and/or recreational purposes. Units of study would include turf grass culture, soil and grass relationships, fertilizers and turf, insects and diseases, plant propagation, turf care, and turf renovation. A home, school, or other area experience turf grass program plot is an appropriate activity.

FULL NAME: Typing I
ABBREVIATED NAME: Typing 1
MIS COURSE NUMBER: 334
DESCRIPTION:

This course usually covers development of basic skills in typing with emphasis on both speed and accuracy, letters, tabulation problems, outlines, rough drafts, and manuscripts. Production of mailable copies is usually stressed. Emphasis is usually given to the development of correct typing techniques, accuracy, and speed.

FULL NAME: Typing II
ABBREVIATED NAME: Typing 2
MIS COURSE NUMBER: 335
DESCRIPTION:

A high degree of skill is usually developed in typing, particularly in straight copy typing. Production work, emphasizing the typing of letters, manuscripts, statistical tables, and business forms, usually are the major units of the course. Typewriting office standards may be coupled with typical office related projects. Typewritten material is perfected to mailable standards set by the business community employing the students in this course.

FULL NAME: Vocational Cosmetology II
ABBREVIATED NAME: Voc. Cosmetlgy. 2
MIS COURSE NUMBER: 916
DESCRIPTION:

Same as description for Cosmetology I except this notation is used when the 1,500 hours are specified as a semester one or semester two course.

FULL NAME: Vocational Technical Drafting I
ABBREVIATED NAME: Vo-Tech. Draft. 1
MIS COURSE NUMBER: 785
DESCRIPTION:

A course of organized and specialized study pertaining to the techniques for conveying ideas or illustrations graphically through drawings, charts, sketches, maps and graphs.

FULL NAME: Vocational Technical Drafting II
ABBREVIATED NAME: Vo-Tech. Draft. 2
MIS COURSE NUMBER: 786
DESCRIPTION:

This course is designed to be a continuation of Vocational Technical Drafting I with added emphasis on the techniques of drawing three dimensional objects on a two dimensional surface according to mathematical rules of projection.

FULL NAME: Ward Clerk Skills
ABBREVIATED NAME: Ward Clk. Sk.
MIS COURSE NUMBER: 519
DESCRIPTION:

Classroom, laboratory, and extended campus and/or cooperative education. The course should include the units of instruction and skills necessary to perform competently as a ward clerk. Units of instruction include the skills of communication (proper use of phone and intercom) and working environment in facilities covering policies, rules, and regulations pertaining to relationships to visitors, patients, and co-workers. Clerical responsibilities covering recordkeeping, transcribing orders, requisitions, use of addressograph, and a multiplicity of standard and special chart forms. Responsibilities of the ward clerk have a unit centered about patient activities that will include admission, discharge, transfer and death, laboratory tests, etc. A unit on medical terminology includes spelling.

FULL NAME: Welding
ABBREVIATED NAME: Welding
MIS COURSE NUMBER: 781
DESCRIPTION:

The student develops understanding and skill in the safe use of arc welding equipment. The basic joints are welded in the flat, horizontal, vertical and overhead positions using mild steel and various types of electrodes. Typical operations include bead, butt, lap and fillet welding.

FULL NAME: Welding
ABBREVIATED NAME: Welding
MIS COURSE NUMBER: 158
DESCRIPTION:

Planned learning activities and experiences designed to include safety, fundamental skills of arc and oxy-acetylene welding, cold metal work, and some arc and oxy-acetylene welding activities. This should also include orientation to job opportunities, needed skills, and preparation for entry-level employment. Students should receive practical experience either at home, in the school laboratory, or other facility.

FULL NAME: Welding Occupations I
ABBREVIATED NAME: Welding Occ. 1
MIS COURSE NUMBER: 774
DESCRIPTION:

This course provides learning experiences related to all types of metal welding, brazing, and cutting including gas and inert gas (manual and semi-automatic), and combination welding processes. Instruction emphasizes properties of metals, electrical principles, welding symbols, and techniques of laying out work from drawings, blueprints, or written specifications.

FULL NAME: Welding Occupations II
ABBREVIATED NAME: Welding Occ. 2
MIS COURSE NUMBER: 775
DESCRIPTION:

This course is a continuation of the 11th grade course providing learning experiences concerned with all types of metal welding, brazing and cutting. This course is articulated with the 11th grade course in such a manner that the student is afforded additional information and experiences relevant to welding occupations. The emphasis is upon the development of knowledge and skills necessary for the graduating student to enter a welding occupation or pursue further training.

FULL NAME: Wholesaling
ABBREVIATED NAME: Wholesaling
MIS COURSE NUMBER: 336
DESCRIPTION:

The study of the problems, organization, and operating practices of wholesale establishments, including the wholesale function of merchandising, its nature and structure, and the distributing, warehousing, sales, stock control, and costs functions.

FULL NAME: Woodworking
ABBREVIATED NAME: Woodworking
MIS COURSE NUMBER: 776
DESCRIPTION:

This course is a continuation of the 9th grade industrial orientation course and is designed to provide the learning experiences for the student to understand the kinds of knowledge and skills required for successful performance in occupations in the woods industry, to develop an awareness of occupational opportunities within the industry, and to acquire basic knowledge and skills necessary as a foundation for further specialized training. The course includes instruction and experiences in cutting, shaping, and assembling parts by means of hand and power tools, designing of wood products, and evaluating woods and wood products.

APPENDIX C

REVISED AND EXPANDED COURSE DICTIONARY

Course Title	Funding Level	MIS Course Number	Type of Course
General Vocational Orientation	3	001	Orientational
Consumer Economics	2	002	Orientational
Professional Profile	2	003	Orientational
World of Work	2	004	Orientational
Applied Agriculture (Related)	2	006	Orientational
Special Education - Basic Biological and Agricultural Occupations	3	008	Orientational
Special Education - Advanced Biological and Agricultural Occupations	1	009	Vocational
Orientation - Biological and Agricultural Occupations - I	3	010	Orientational
Orientation - Biological and Agricultural Occupations - II	3	011	Orientational
Basic Agricultural Business Management - I	3	020	Orientational
Basic Agricultural Business Management - II	3	021	Orientational
Basic Agricultural Chemicals - I	3	022	Orientational
Basic Agricultural Chemicals - II	3	023	Orientational
Basic Agricultural Construction - I	3	024	Orientational
Basic Agricultural Construction - II	3	025	Orientational
Agricultural Machine Operations - I	3	026	Orientational
Agricultural Machine Operations - II	3	027	Orientational
Basic Agricultural Mechanics - I	3	028	Orientational
Basic Agricultural Mechanics - II	3	029	Orientational
Basic Agricultural Marketing	3	030	Orientational
Basic Agricultural Power	3	031	Orientational
Basic Animal Science - I	3	032	Orientational
Basic Animal Science - II	3	033	Orientational
Basic Arboriculture	3	034	Orientational
Basic Agricultural Supplies and Services	3	035	Orientational
Basic Agricultural Resources	3	036	Orientational
Crop Production - I	3	037	Orientational
Crop Production - II	3	038	Orientational
Basic Conservation - I	3	039	Orientational
Basic Agricultural Electricity - I	3	040	Orientational
Basic Agricultural Electricity - II	3	041	Orientational
Basic Plant Science - I	3	042	Orientational
Basic Plant Science - II	3	043	Orientational
Basic Small Engines - I	3	044	Orientational
Basic Small Engines - II	3	045	Orientational
Basic Ornamental Horticulture - I	3	046	Orientational
Basic Ornamental Horticulture - II	3	047	Orientational
Basic Agricultural Welding - I	3	048	Orientational
Basic Agricultural Welding - II	3	049	Orientational
Basic Agriculture - I	3	050	Orientational
Basic Agriculture - II	3	051	Orientational
Basic Floriculture	3	052	Orientational
Basic Conservation - II	3	053	Orientational
Basic Plant and Animal Science	3	054	Orientational
Basic Ecology Resources	3	055	Orientational
Basic Forest Resources	3	056	Orientational
Basic Soil Resources	3	057	Orientational
Basic Water Resources	3	058	Orientational
Basic Wildlife Resources	3	059	Orientational
Basic Landscaping	3	060	Orientational
Basic Turf Management	3	061	Orientational
Basic Greenhouse Management	3	062	Orientational
Basic Nursery	3	063	Orientational
Basic Grounds Maintenance	3	064	Orientational
Agricultural Construction - I	1	080	Vocational
Agricultural Construction - II	1	081	Vocational
Agricultural Mechanics - I	1	082	Vocational
Agricultural Mechanics - II	1	083	Vocational
Agricultural Technical Occupations - I	1	084	Vocational
Agricultural Technical Occupations - II	1	085	Vocational
Animal Science	1	086	Vocational
Arboriculture	1	087	Vocational
Agricultural Electrification - I	1	088	Vocational

Course Title	Funding Level	MIS Course Number	Type of Course
Agricultural Power - I	1	089	Vocational
Agricultural Power - II	1	090	Vocational
Floriculture	1	093	Vocational
Landscaping	1	094	Vocational
Conservation - I	1	095	Vocational
Conservation - II	1	096	Vocational
Forest Production	1	097	Vocational
Forest Protection	1	098	Vocational
Grounds Maintenance - I	1	099	Vocational
Grounds Maintenance - II	1	100	Vocational
Ornamental Horticulture - I	1	101	Vocational
Advanced Agriculture - I	1	102	Vocational
Advanced Agriculture - II	1	103	Vocational
Agricultural Electrification - II	1	104	Vocational
Agricultural Electricity - I	1	105	Vocational
Agricultural Electricity - II	1	106	Vocational
Ornamental Horticulture - II	1	107	Vocational
Agricultural Resources	1	108	Vocational
Small Engines	1	109	Vocational
Agricultural Supplies and Services	1	110	Vocational
Plant Science - I	1	111	Vocational
Plant Science - II	1	112	Vocational
Agricultural Marketing	1	113	Vocational
Agricultural Business Management - I	1	135	Vocational
Agricultural Business Management - II	1	136	Vocational
Agricultural Chemicals - I	1	137	Vocational
Agricultural Chemicals - II	1	138	Vocational
Arboriculture Business Management	1	139	Vocational
Camp Ground Management	1	140	Vocational
Farm Electrification Specialty	1	141	Vocational
Agricultural Technology - I	1	142	Vocational
Agricultural Technology - II	1	143	Vocational
Agricultural Technology - III	1	144	Vocational
Agricultural Mechanics Skills - I	1	145	Vocational
Agricultural Mechanics Skills - II	1	146	Vocational
Agricultural Business Management Specialty	1	147	Vocational
Animal Science Specialty - I	1	148	Vocational
Animal Science Specialty - II	1	149	Vocational
Plant Science Specialty - I	1	150	Vocational
Plant Science Specialty - II	1	151	Vocational
Farm Business Management - I	1	152	Vocational
Floriculture Business Management	1	153	Vocational
Landscaping Business Management	1	154	Vocational
Conservation Specialty - I	1	155	Vocational
Conservation Specialty - II	1	156	Vocational
Agricultural Electricity Specialty	1	157	Vocational
Farm Business Management - II	1	158	Vocational
Sod Farm Management	1	160	Vocational
Game and Wildlife Management	1	161	Vocational
Golf Course Management	1	162	Vocational
Greenhouse Management	1	163	Vocational
Grounds Maintenance Specialty	1	164	Vocational
Ornamental Horticulture Business Management	1	165	Vocational
Ornamental Horticulture Mechanics	1	166	Vocational
Nursery Management	1	167	Vocational
Soil and/or Water Management	1	168	Vocational
Turf Management	1	169	Vocational
Agricultural Welding - I	1	170	Vocational
Agricultural Welding - II	1	171	Vocational
Agricultural Judging and Evaluation	1	172	Vocational
Farm Record Keeping and Analysis	1	173	Vocational
Agricultural Fertilizers	1	174	Vocational
Cooperative Education - Applied Biological and Agricultural Occupations	1	199	Cooperative
Applied Art (Related)	2	200	Orientational

Course Title	Funding Level	MIS Course Number	Type of Course
Applied Chemistry (Related)	2	201	Orientational
Applied Health (Related)	2	202	Orientational
Applied Homemaking (Related)	2	203	Orientational
Applied Science (Related)	2	204	Orientational
Applied Typing (Related)	2	205	Orientational
Applied Industrial (Related)	2	206	Orientational
Special Education - Basic Business, Marketing and Management Occupations	3	208	Orientational
Special Education - Advanced Business, Marketing and Management Occupations	1	209	Vocational
Orientation - Business, Marketing and Management Occupations - I	3	210	Orientational
Orientation - Business, Marketing and Management Occupations - II	3	211	Orientational
Orientation - Business Occupations - I	3	212	Orientational
Orientation - Business Occupations - II	3	213	Orientational
Basic Small Business Management	3	220	Orientational
Basic Computers and Programming	3	221	Orientational
Basic Data Processing	3	222	Orientational
Basic Distributive Marketing	3	223	Orientational
Basic Merchandising	3	224	Orientational
Basic Office Machines	3	226	Orientational
Basic Marketing	3	228	Orientational
Basic Salesmanship	3	229	Orientational
Basic Bookkeeping	3	230	Orientational
Basic Advertising	3	231	Orientational
Basic Management	3	232	Orientational
Typing - I (First Year)	3	234	Orientational
Basic Journalism	3	235	Orientational
Basic Recordkeeping	3	236	Orientational
Basic Notehand	3	237	Orientational
Basic Shorthand	3	240	Orientational
Business Communications	2	249	Orientational
Business English	2	250	Orientational
Business Law	2	251	Orientational
Business Mathematics	2	252	Orientational
Business Management (Related)	2	253	Orientational
Bookkeeping - I	1	280	Vocational
Bookkeeping - II	1	281	Vocational
Small Business Management	1	282	Vocational
Marketing	1	283	Vocational
Wholesaling	1	284	Vocational
Management	1	285	Vocational
Purchasing	1	286	Vocational
Computers and Programming	1	289	Vocational
Data Processing - I	1	291	Vocational
Data Processing - II	1	292	Vocational
Distributive Marketing - I	1	293	Vocational
Distributive Marketing - II	1	294	Vocational
Office Machines - I	1	295	Vocational
Office Machines - II	1	296	Vocational
Recordkeeping	1	297	Vocational
Retailing	1	298	Vocational
Clerking	1	299	Vocational
Journalism	1	301	Vocational
Advanced Business Occupations	1	303	Vocational
Merchandising - I	1	305	Vocational
Merchandising - II	1	306	Vocational
Accounting - I	1	335	Vocational
Accounting - II	1	336	Vocational
Advertising	1	337	Vocational
Agricultural Marketing	1	338	Vocational
Buying	1	340	Vocational
Data Card Keypunch - I	1	341	Vocational
Data Card Keypunch - II	1	342	Vocational

Course Title	Funding Level	MIS Course Number	Type of Course
General Office Practice	1	343	Vocational
Clerical Office Practice	1	344	Vocational
Secretarial Office Practice	1	345	Vocational
Finance	1	348	Vocational
Industrial Marketing	1	349	Vocational
Legal Secretary Specialty	1	350	Vocational
Medical Secretary Specialty	1	352	Vocational
Machine Shorthand - I	1	354	Vocational
Machine Shorthand - II	1	355	Vocational
Model Office	1	356	Vocational
Computer Programming - I	1	358	Vocational
Computer Programming - II	1	359	Vocational
Shorthand - I	1	362	Vocational
Shorthand - II	1	363	Vocational
Typing - II (Second Year)	1	364	Vocational
Typing - III (Third Year)	1	365	Vocational
Duplicating Machine Operation	1	369	Vocational
Sales Specialty	1	370	Vocational
Secretarial Office Practice Specialty	1	375	Vocational
Distributive Marketing Cooperative Education	1	397	Cooperative
Office Occupations Cooperative Education	1	398	Cooperative
Business, Market and Management Occupations Cooperative Education	1	399	Cooperative
Special Education - Basic Health Occupations	3	408	Orientational
Special Education - Advanced Health Occupations	1	409	Vocational
Orientation - Health Occupations - I	3	410	Orientational
Orientation - Health Occupations - II	3	411	Orientational
Basic Health Occupations - I	3	420	Orientational
Basic Health Occupations - II	3	421	Orientational
Basic Health Therapy	3	422	Orientational
Basic Medical Laboratory	3	423	Orientational
Basic Medical Assisting	3	425	Orientational
Basic Nursing Occupations - I	3	427	Orientational
Basic Nursing Occupations - II	3	428	Orientational
Basic Dental Assisting	3	429	Orientational
Health Occupations Core - I	1	480	Vocational
Health Occupations Core - II	1	481	Vocational
Health Therapy Occupations	1	482	Vocational
Dental Assisting Occupations	1	484	Vocational
Medical Assisting Occupations	1	485	Vocational
Nurse Assisting Occupations	1	486	Vocational
Medical Laboratory Occupations	1	487	Vocational
Practical Nurse Occupations	1	489	Vocational
Geriatric Aide Skills	1	535	Vocational
Pharmacy Aide Skills	1	537	Vocational
Radiologic Aide Skills	1	539	Vocational
Recreational Therapy Aide Skills	1	541	Vocational
Rehabilitation Aide Skills	1	543	Vocational
Respiratory Therapy Aide Skills	1	545	Vocational
Medical Assisting Skills	1	547	Vocational
Dental Assisting Skills	1	549	Vocational
Nurse Assisting Skills - I	1	551	Vocational
Nurse Assisting Skills - II	1	552	Vocational
Ward Clerk Skills	1	553	Vocational
Electrocardiograph Assisting Skills	1	554	Vocational
Electroencephalograph Assisting Skills	1	556	Vocational
Medical Laboratory Assisting Skills	1	558	Vocational
Mortuary Aide Specialty	1	560	Vocational
Nucleonics Technician Skills	1	562	Vocational
Practical Nurse Skills - I	1	564	Vocational
Practical Nurse Skills - II	1	565	Vocational
Physical Therapy Aide Skills	1	566	Vocational
Health Occupations Cooperative Education	6	599	Cooperative
Educable Mentally Handicapped (In-School)	1	600	Vocational
Trainable Mentally Handicapped (In-School)	1	601	Vocational

Course Title	Funding Level	MIS Course Number	Type of Course
Special Education - Cross Cluster Training - I	1	602	Vocational
Special Education - Cross Cluster Training - II	1	603	Vocational
Special Education - Vocational Orientation	3	604	Orientational
Special Education - Basic Industrial Occupations	3	608	Orientational
Special Education - Advanced Industrial Occupations	1	609	Vocational
Orientation - Industrial Occupations - I	3	610	Orientational
Orientation - Industrial Occupations - II	3	611	Orientational
Basic Heating and Air Conditioning - I	3	620	Orientational
Basic Heating and Air Conditioning - II	3	621	Orientational
Basic Aircraft Maintenance and Support - I	3	622	Orientational
Basic Aircraft Maintenance and Support - II	3	623	Orientational
Basic Commercial and Graphic Arts - I	3	626	Orientational
Basic Commercial and Graphic Arts - II	3	627	Orientational
Basic Automotive Occupations - I	3	628	Orientational
Basic Automotive Occupations - II	3	629	Orientational
Basic Construction and Building Trades - I	3	630	Orientational
Basic Construction and Building Trades - II	3	631	Orientational
Basic Electricity - I	3	632	Orientational
Basic Electricity - II	3	633	Orientational
Basic Electronics - I	3	634	Orientational
Basic Electronics - II	3	635	Orientational
Basic Drafting - I	3	636	Orientational
Basic Drafting - II	3	637	Orientational
Basic Small Engine Repair - I	3	638	Orientational
Basic Small Engine Repair - II	3	639	Orientational
Basic Business Machine Maintenance - I	3	640	Orientational
Basic Business Machine Maintenance - II	3	641	Orientational
Basic Machine Shop - I	3	642	Orientational
Basic Machine Shop - II	3	643	Orientational
Basic Power Mechanics - I	3	644	Orientational
Basic Power Mechanics - II	3	645	Orientational
Basic Metalworking - I	3	646	Orientational
Basic Metalworking - II	3	647	Orientational
Basic Plastics	3	648	Orientational
Basic Welding - I	3	649	Orientational
Basic Welding - II	3	650	Orientational
Basic Seamanship	3	651	Orientational
Basic Woodworking - I	3	653	Orientational
Basic Woodworking - II	3	654	Orientational
Basic Blueprints	3	655	Orientational
Basic Commercial Photography	3	657	Orientational
Technical Communications (Related)	2	660	Orientational
Technical English (Related)	2	661	Orientational
Technical Mathematics (Related)	2	662	Orientational
Basic Sheet Metals - I	3	663	Orientational
Basic Sheet Metals - II	3	664	Orientational
Basic Printing - I	3	665	Orientational
Basic Printing - II	3	666	Orientational
Basic Surveying	3	667	Orientational
Air Conditioning Occupations - I	1	680	Vocational
Air Conditioning Occupations - II	1	681	Vocational
Aircraft Support Occupations	1	682	Vocational
Appliance Maintenance Occupations - I	1	684	Vocational
Appliance Maintenance Occupations - II	1	685	Vocational
Commercial Art Occupations - I	1	686	Vocational
Commercial Art Occupations - II	1	687	Vocational
Automotive Body and Fender - I	1	688	Vocational
Automotive Body and Fender - II	1	689	Vocational
Automotive Servicing - I	1	690	Vocational
Automotive Servicing - II	1	691	Vocational
Construction and Building Trade - I	1	692	Vocational
Construction and Building Trade - II	1	693	Vocational
Electronics Occupations - I	1	694	Vocational
Electronics Occupations - II	1	695	Vocational
Electricity Occupations - I	1	696	Vocational

Course Title	Funding Level	MIS Course Number	Type of Course
Electricity Occupations - II	1	697	Vocational
Drafting Occupations - I	1	698	Vocational
Drafting Occupations - II	1	699	Vocational
Small Engine Repair - I	1	700	Vocational
Small Engine Repair - II	1	701	Vocational
Foundry Occupations - I	1	702	Vocational
Foundry Occupations - II	1	703	Vocational
Business Machine Maintenance - I	1	704	Vocational
Business Machine Maintenance - II	1	705	Vocational
Machine Shop Occupations - I	1	706	Vocational
Machine Shop Occupations - II	1	707	Vocational
Power Mechanics Occupations - I	1	708	Vocational
Power Mechanics Occupations - II	1	709	Vocational
Combined Metal Trades - I	1	710	Vocational
Combined Metal Trades - II	1	711	Vocational
Plastics Occupations - I	1	712	Vocational
Plastics Occupations - II	1	713	Vocational
Welding Occupations - I	1	714	Vocational
Welding Occupations - II	1	715	Vocational
Seamanship Occupations - I	1	716	Vocational
Seamanship Occupations - II	1	717	Vocational
Woodworking Occupations - I	1	718	Vocational
Woodworking Occupations - II	1	719	Vocational
Recreational Vehicle Occupations	1	720	Vocational
Printing Occupations - I	1	722	Vocational
Printing Occupations - II	1	723	Vocational
Heating and Air Conditioning Occupations - I	1	724	Vocational
Heating and Air Conditioning Occupations - II	1	725	Vocational
Graphic Arts Occupations - I	1	726	Vocational
Graphic Arts Occupations - II	1	727	Vocational
Advanced Industrial Occupations	1	728	Vocational
Photography Occupations - I	1	730	Vocational
Photography Occupations - II	1	731	Vocational
Diesel Mechanics Occupations - I	1	734	Vocational
Diesel Mechanics Occupations - II	1	735	Vocational
Aircraft Maintenance Skills - I	1	736	Vocational
Aircraft Maintenance Skills - II	1	737	Vocational
Aircraft and Ground Support Skills - I	1	738	Vocational
Aircraft and Ground Support Skills - II	1	739	Vocational
Refrigeration Specialty - I	1	740	Vocational
Refrigeration Specialty - II	1	741	Vocational
Gas Appliance Repair Specialty	1	742	Vocational
Electric Appliance Repair Specialty	1	744	Vocational
Graphic Arts Skills	1	749	Vocational
Auto Body and Fender Skills - I	1	750	Vocational
Auto Body and Fender Skills - II	1	751	Vocational
Automotive Painting Specialty	1	752	Vocational
Auto Mechanics Skills - I	1	754	Vocational
Auto Mechanics Skills - II	1	755	Vocational
Auto Equipment and Accessory Specialty	1	756	Vocational
Cabinet Making and Millwork - I	1	758	Vocational
Cabinet Making and Millwork - II	1	759	Vocational
Sheet Metals - I	1	760	Vocational
Sheet Metals - II	1	761	Vocational
Commercial Photography - I	1	762	Vocational
Commercial Photography - II	1	763	Vocational
Communications Electronics - I	1	764	Vocational
Communications Electronics - II	1	765	Vocational
Industrial Electrician - I	1	766	Vocational
Industrial Electrician - II	1	767	Vocational
Industrial Electronics - I	1	768	Vocational
Industrial Electronics - II	1	769	Vocational
Tool and Die Specialty	1	770	Vocational
Radio and Television Specialty - I	1	772	Vocational
Radio and Television Specialty - II	1	773	Vocational

Course Title	Funding Level	MIS Course Number	Type of Course
Welding Specialty - I	1	774	Vocational
Welding Specialty - II	1	775	Vocational
Architectural Drafting - I	1	776	Vocational
Architectural Drafting - II	1	777	Vocational
Industrial Drafting - I	1	778	Vocational
Industrial Drafting - II	1	779	Vocational
Construction and Building Trades Specialty - I	1	780	Vocational
Construction and Building Trades Specialty - II	1	781	Vocational
Industrial Occupations Cooperative Education	6	799	Cooperative
Interrelated Cooperative Education	6	800	Cooperative
Special Education - Cooperative Education	6	801	Cooperative
Cooperative Work Training	6	802	Cooperative
Cooperative Work Training (In-School)	6	803	Cooperative
Applied Child Care (Related)	3	804	Orientational
Special Education - Basic Personal and Public Service Occupations	3	808	Orientational
Special Education - Advanced Personal and Public Service Occupations	1	809	Vocational
Orientation - Personal and Public Service Occupations - I	3	810	Orientational
Orientation - Personal and Public Service Occupations - II	3	811	Orientational
Orientation - Child Care - I	3	812	Orientational
Orientation - Child Care - II	3	813	Orientational
Orientation - Home Management Occupations - I	3	814	Orientational
Orientation - Home Management Occupations - II	3	815	Orientational
Orientation - Public Service Occupations - I	3	816	Orientational
Orientation - Public Service Occupations - II	3	817	Orientational
Basic Clothing and Fabric Occupations - I	3	820	Orientational
Basic Clothing and Fabric Occupations - II	3	821	Orientational
Basic Adult Care	3	822	Orientational
Basic Child and Adult Care	3	823	Orientational
Basic Child Care - I	3	824	Orientational
Basic Child Care - II	3	825	Orientational
Basic Furnishing and Decorating Occupations - I	3	826	Orientational
Basic Furnishing and Decorating Occupations - II	3	827	Orientational
Basic Food Production and Services - I	3	828	Orientational
Basic Food Production and Services - II	3	829	Orientational
Basic Environmental Occupations	3	830	Orientational
Basic Cosmetology	3	832	Orientational
Basic Law Enforcement	3	834	Orientational
Basic Fire Occupations	3	836	Orientational
Basic Housing Occupations	3	838	Orientational
Basic Hospitality Occupations	3	840	Orientational
Basic Sewing and Needle Trades	3	842	Orientational
Basic Textiles	3	844	Orientational
Basic Housekeeping Occupations - I	3	846	Orientational
Basic Housekeeping Occupations - II	3	847	Orientational
Clothing Occupations - I	1	880	Vocational
Clothing Occupations - II	1	881	Vocational
Clothing and Fabric Occupations	1	882	Vocational
Furnishing and Decorating Occupations - I	1	884	Vocational
Furnishing and Decorating Occupations - II	1	885	Vocational
Child Care Occupations - I	1	886	Vocational
Child Care Occupations - II	1	887	Vocational
Barbering Occupations - I	1	888	Vocational
Barbering Occupations - II	1	889	Vocational
Adult Care Occupations	1	890	Vocational
Food Production and Services Occupations - I	1	892	Vocational
Food Production and Services Occupations - II	1	893	Vocational
Environmental Occupations	1	894	Vocational
Cosmetology Occupations - I	1	896	Vocational
Cosmetology Occupations - II	1	897	Vocational
Interior Decoration Occupations	1	898	Vocational
Law Enforcement Occupations	1	900	Vocational
Fire Occupations	1	902	Vocational
Hospitality Occupations - I	1	904	Vocational

Course Title	Funding Level	MIS Course Number	Type of Course
Hospitality Occupations - II	1	905	Vocational
Home Management Occupations	1	906	Vocational
Public Service Occupations - I	1	908	Vocational
Public Service Occupations - II	1	909	Vocational
Sewing and Needle Trades	1	910	Vocational
Clothing and Construction Specialty - I	1	935	Vocational
Clothing and Construction Specialty - II	1	936	Vocational
Clothing Alterations Specialty	1	937	Vocational
Fabrics Specialty	1	939	Vocational
Food Services Specialty - I	1	941	Vocational
Food Services Specialty - II	1	942	Vocational
Interior Decorating Specialty	1	943	Vocational
Food Preparation Specialty - I	1	945	Vocational
Food Preparation Specialty - II	1	946	Vocational
Nutrition Specialty	1	947	Vocational
Cosmetology Specialty	1	951	Vocational
Law Enforcement Laboratory	1	955	Vocational
Fire Fighting, Prevention and Safety	1	957	Vocational
Environmental Specialty	1	960	Vocational
Environmental Laboratory Assisting	1	961	Vocational
Furnishing Care and Restoration	1	962	Vocational
Child Care Specialty - I	1	964	Vocational
Child Care Specialty - II	1	965	Vocational
Hospitality Specialty	1	966	Vocational
Housekeeping Occupations Specialty	1	968	Vocational
Public Services Specialty	1	970	Vocational
Sewing Trades Specialty	1	972	Vocational
Needles Trades Specialty	1	974	Vocational
Textiles Specialty	1	975	Vocational
Laundry and Dry Cleaning Specialty - I	1	978	Vocational
Laundry and Dry Cleaning Specialty - II	1	979	Vocational
Adult Care Specialty	1	980	Vocational
Home Economics Cooperative Education	6	996	Cooperative
Fire Cadet Cooperative Education - I	6	997	Cooperative
Fire Cadet Cooperative Education - II	6	998	Cooperative
Personal and Public Service Occupations Cooperative Education	6	999	Cooperative

APPENDIX D

PROCEDURE I -- COMPLETION OF STUDENT INFORMATION CARDS

PROCEDURE I

Activity	Description
1. Secure Student Information Cards (DVTE 020) and other materials for Procedure I	Maintain an adequate supply of Student Information Cards (DVTE 020) and data card boxes (for mailing). (See Procedure VI for direction in inventorying and ordering new cards.)
2. MIS Inservice Training	Prior to the start of each fall semester, DAVTE will provide to all LDC's the necessary inservice training relevant to the operation of the Management Information System (MIS).
3. Select a time for the Declaration Period	You must identify a time period you wish to devote to collecting information on the SIC's. This is called the Declaration Period. In districts new to the MIS, this period should last no more than two weeks. For districts which have participated in the MIS before, this period should not last more than one week. The Declaration Period must be completed no later than the end of the third full week of school.
4. Receive initial MIS reports	Prior to the start of your Declaration Period, you will receive from the MIS Control Unit computer printouts for each attendance center in your district. One printout, VE018, will contain the list of programs offered in your district (with identifying program numbers) for students to refer to when completing their SIC.
5. Identify students who need to complete a SIC	You will need to identify all vocational students who do not have a record in the MIS (i.e., who have not previously completed a SIC in the attendance center they attend). Attendance centers previously in the MIS will have a VE028 printout (an alpha listing of all students in the attendance center who have a record in the MIS) and a VE069 printout (identical to the VE028 except that it is an alpha listing by grade level for the attendance center). Districts new to the MIS will have to administer SIC's to all vocational (or all) 9-12 grade students. This first-time effort may involve too many students to allow for one-on-one meetings. In the past, LDC's have chosen to use group meetings according to home rooms, grade levels, sections of the alphabet, etc. We recommend that such groups be kept as small as possible because it is difficult to maintain accuracy on the cards when the groups are too large. If you pre-register in the spring, you must remember to have all students not registered at the beginning of school complete a SIC. If at all possible, however, it is recommended that completion of the SIC be done in one-on-one or small-group counseling sessions. (Several participating districts have taken the extra effort to do this, and they feel the results are worthwhile.)
6. Train those whom you will need to assist you in administering the SICs	Several days before the start of the Declaration Period, meet with the people who are to assist you in administering the SIC's. Give each person a copy of Procedure I, a copy of the attendance center's programs, and an appropriate number of SIC's. Conduct a brief training session (approximately one hour) to review Procedure I and practice filling out a card or two. Discuss how to orient students to the concept of "vocational programs" and the training opportunities available to them at the attendance center.

Emphasize that accuracy is very important in SIC completion. Errors always show up in a computer system and will have to be corrected somewhere along the line.

7. Instructions for completing the SIC

Have only those students complete a SIC who have not completed one at this attendance center before. It will help if you have examples of the SIC blocks available on the chalkboard or on a chart for students to refer to while completing the card. Read the following italicized directions to the students as they complete the cards:

a. *"A new data technique has been developed to simplify the reporting system for vocational education. Also, this new system will provide feedback to the schools which will help us offer better training programs and meet the employment demands in our area. Therefore, it is important that you fill out this card accurately. Wait for my directions to complete each section or block of your card and raise your hand if you have any questions."*

"Use pencil only. Do not use a ballpoint, ink or felt-tip pen. If erasures must be made, erase the incorrect marks completely before coding the correct information."

"When filling in the circles on the card, blacken the circle completely but do not mark outside the bounds of the circle. If your card is bent or torn, ask me for a new card before we go on."

b. Block 1, Student Name:

Have students print their name, beginning with the last name.

"Turn to the front side of the card where Block 1 is located. For this block, you are to use your legal name--the same name you would use on your social security card, driver's license, or the like."

"Starting with the first box from the left, print your last name in the response boxes under 'Student's Last Name.' It is important that you start with the left-hand box in each of these name sections on this side of the card. There are sixteen spaces available for your last name. If it is shorter than this, leave the extra spaces blank. If it is longer than this, print the first sixteen letters and spaces of your last name and leave the remaining letters off of the card. If your last name has a blank space or a dash, leave a corresponding space blank on the card. For instance, 'La (space) Rosa' should have a blank box between 'La' and 'Rosa'."

"Now repeat the process to record your first name. If your first name exceeds eleven spaces, print in the first eleven letters of your first name and omit the remaining letters. If it is shorter than eleven letters, leave the extra spaces blank. Remember to start with the left-hand box under 'First Name'."

"Print your middle initial in the box on the right, labeled 'Middle Initial'. Leave this blank only if you do not have a middle name or initial."

"Now go back and blacken the appropriate circle under each box. Do not mark any circles under a blank response box."

c. Block 2, Social Security Number:

"Turn your card over. In Block 2, enter your social security number and blacken the proper response circle beneath each number. If you have a social security number but do not know it at this time, leave this section blank and get your social security number to me as soon as possible so that your card can be completed. If you do not have a social security number, put 'zeros' in the boxes and blacken the zero circle in each column."

d. Block 3, Date of Birth:

"In Block 3, enter your date of birth."

"Under 'Month', write in the number that corresponds to the month you were born. If you were born between January and September, put 'zero' in the left-hand box and the corresponding number of the month in the second box. For example: January is written 'zero-one', February is 'zero-two', and so on. October is 'one-zero', November is 'one-one', and December is 'one-two'."

"Under 'Day', write the number of the day of the month you were born. If you were born before the 10th of the month, put a zero in the left-hand box and the number of the day in the right-hand box. For example, the first day of the month would be written 'zero-one' and so on to the highest possible day of 'three-one'."

"Under 'Year', write in the last two numbers of the year of your birth. For example, a person born in 1959 would write in 'five-nine'."

"Now blacken the appropriate circle below each box in the 'Date of Birth' block."

e. Block 4, Sex:

"Go to Block 4, 'Sex', and blacken the proper 'Male' or 'Female' response circle."

f. Block 5, Veteran:

"Go to Block 5, 'Veteran'. If you have ever served on active duty in the Armed Forces of the United States, blacken the response 'Yes'. Otherwise, blacken the response for 'No'."

g. Block 6, Attendance Center:

Write your attendance center number on the board or on a chart for the students to copy.

"Go to Block 6, 'Attendance Center Number'. Write these numbers in the boxes across the top of this block." (Say the numbers slowly and distinctly and point to the example you have displayed.)

"Now go back and blacken the proper circle under each box."

h. Block 7, Current Grade Level:

"Go to Block 7, 'Current Grade Level'. Blacken the circle by your current grade level." Note: These instructions may be varied according to who is

completing the cards. Also, if the cards are being administered in the spring for next year's incoming students, have them indicate their grade level for the next year.

i. Block 8, Declared Vocational Program:

Here is where the opportunity for vocational counseling comes in. What you say and do here depends on how and to whom the cards are being administered. Your goals should be: (1) to explain how taking a vocational program can lead to learning skills which will make the student employable upon completion of school, and (2) to provide counseling and information which will help students identify their interests so that they can make realistic decisions about their training needs.

Students ready to identify a vocational program choice should write in and code the corresponding three-digit program number given on the list of programs for your attendance center. Some students will not be able to make a vocational choice -- even a tentative one -- at this time. If the student does not wish to declare a program at this time, he/she should write in and code '999' in Block 8.

j. The card(s) should now be completed. However, each card should be checked. All blocks should have an entry, except for Block 2 in the case where a student has a social security number but does not have it available. These incomplete cards should be pulled and the social security number entered before the SIC's are sent to DAVTE.

8. Absentees

All vocational students must have a SIC on file with the MIS Control Unit. Should a student be absent during the scheduled Declaration Period, school records can be used to obtain the information necessary to complete a SIC. If there is insufficient information available to complete Block 8, 'Declared Vocational Program', a '999' should be coded. Note: Provisions for updating SIC data after it has been submitted to the MIS Control Unit are discussed in Procedure II.

9. Collect all SIC's

Collect all used and unused SIC's. Examine the unused cards and return the undamaged, unmarked cards to your supply of blank SIC's. Discard all damaged and unusable cards.

The completed cards should be kept in separate decks for each attendance center. The order in which cards are placed in the deck is not important. (They need not be kept in alphabetical, grade level, or any other order so long as they are kept separated by attendance center.)

10. Review SIC's for completeness and accuracy

Briefly review the SIC's one by one to ensure that all the cards have been filled out properly. Blocks 1, 2, 3, 6 and 8 should have both written-in and blackened-in data. Blocks 4, 5 and 7 should have one circle blackened. If any cards are found to be incomplete, have them completed. The extra effort expended in checking the SIC's will pay dividends in the accuracy of the data reports returned to you from DAVTE.

11. Preparing the SIC decks for mailing to DAVTE

Complete two (2) copies of the Data Card Transmittal Letter by entering the number of boxes or packages being shipped and the attendance center(s) from which they are coming. One copy of this letter is to be included with the card package(s); the other is to be mailed directly to the MIS Control Unit.

Package the cards in the box(es) provided by DAVTE. If only a few cards are to be mailed (less than 200), the cards can be packaged by being wrapped several times in heavy paper or some other suitable material and taped securely.

Package the cards compactly and wrap and/or tape the packages securely. Mailed packages are often subjected to rough handling.

If more than one package of cards are being sent, number each box "No. ___ of ___" so that the MIS Control Unit will know how many packages to expect.

12. Mailing address of DAVTE

Mail the cards and letter, First Class, to:

MIS Control Unit
Department of Adult, Vocational
and Technical Education
100 North First Street, N-443
Springfield, Illinois 62777

13. Mailing deadline

All cards should be mailed as soon as possible after the start of the Declaration Period, but no later than three weeks after the start of the fall semester.

If the cards are not received by the MIS Control Unit within one week, we will follow-up by telephone to check the status of this activity.

At this point, the local SIC declaration process is complete. DAVTE will have the card decks processed, store the data in the MIS computer, and student record validation report (VE027) will be returned to you for Procedure II.

APPENDIX E

PROCEDURE II -- VALIDATING THE STUDENT MASTER LISTINGS AND RECORDING HANDICAPPED/ DISADVANTAGED CONDITIONS

PROCEDURE II

When making corrections or changes on a MIS printout:

1. Draw a line through any data to be corrected or changed and write the correct data immediately above that being corrected.
2. Print corrections neatly, using a ball-point pen when possible.
3. At least two copies of the VE027 report will be sent to the local districts so that one copy may be retained in their files.

Activity	Description
1. LDC receives VE027 from DAVTE	This report is a computer printout of the data that students submitted on Student Information Cards (DVTE 020). It lists in alphabetical order the students (grades 9 - 12) by attendance center: their name, social security number, date of birth, sex, veteran status, grade level, and vocational program declaration. In addition, the VE027 displays 10 Handicapped and Disadvantaged Codes for each student.
2. The VE027 is checked for completeness and accuracy of SIC data	How much work this activity will require depends on how closely Procedure I was followed during the Declaration Period. The VE027 should be checked for completeness and accuracy by whomever is best situated to perform this activity. Some items to check: 1. "Gaps" or blanks in the report indicate that a piece of data is missing. 2. Any noticeable indentation in the first space of a column indicates that the student made a coding error. 3. Any garbled data, such as letters where numbers should be, or numbers where letters should be indicate coding errors. 4. Social Security Number (SSN): Zeros in this field indicate that the student reported not having a SSN. If the student has recently obtained one, it should be written in on the VE027; if a SSN has not been obtained, the zeros should remain. A blank SSN field indicates that the student has a SSN, but did not have it available when completing the SIC, and the blank was not detected during the checking process at the end of the Declaration Period. The SSN should be obtained now and written in on the VE027.
3. Handicapped and Disadvantaged Codes are recorded on the VE027 Report	The VE027 lists 10 handicapped codes and 10 disadvantaged codes for each student on the report. By circling the code(s) that apply to any particular student, the local district begins its process of claiming extra reimbursement for H/D students who may require added services in a vocational class. Once this VE027 has been received by DAVTE, all H/D data are omitted on subsequent listings of students that are returned to the district for use during the enrollment period. The person performing this activity should have access to the student records necessary to identify students who have handicapped and/or disadvantaged conditions. This person

could be a counselor, nurse, special education teacher, title director, etc.; or a combination of these persons could be used to record the conditions. Whoever is involved in this activity should be aware of the confidentiality that must be maintained whenever H/D identifications are assigned to students.

Note: Indicating a H/D condition at this point does not automatically mean that the add-on reimbursement will be forthcoming each time the student takes a vocational course. Rather, it programs the computer to print out the same code(s) for that student on the course/section (class) listing (VE059 Report) each time the student takes a vocational course, at which time the LDC or teacher can indicate that extra services were provided which qualifies the district for the add-on reimbursement.

4. Request other types of student listings

When the validated VE027 has been received by DAVTE, the MIS will be updated and a VE028 (student master listing) will be returned to the LDC to use as a control document for Procedures III and IV. Two other updated student listings will be available upon request:

1. The VE029 report lists students alphabetized by vocational program within an attendance center.
2. The VE069 report lists students alphabetized by grade within an attendance center.

If you need the updated VE029 and/or VE069 reports for use in your district, note your request on the last page of the validated VE027 before returning it to DAVTE.

5. Return the validated VE027 report to DAVTE

Send the validated VE027 from each attendance center via first class mail to:

MIS Control Unit
Department of Adult, Vocational and
Technical Education
100 North First Street, N-443
Springfield, Illinois 62777

This completes Procedure II. The VE028 and other reports you requested will be returned as soon as possible for you to use as control documents during the Enrollment Period covered in Procedure III, and the Enrollment Validation Activities covered in Procedure IV.

APPENDIX F

PROCEDURE III -- RECORDING VOCATIONAL COURSE/SECTION ENROLLMENT

PROCEDURE III

Activity	Description
1. Secure materials from DAVTE	Maintain an adequate supply of data cards, Enrollment Worksheets, and Teacher Instructions at your office. See Procedure VI for inventorying and ordering your MIS materials.
2. Teacher Inservice	Schedule an inservice session for the week prior to the Enrollment Period to include all teachers of approved vocational courses. Review with them the activities given in steps 5-9 of this procedure. A thorough review at this time will save time and trouble for both the teachers and the LDC during the Enrollment Period. Note: If the schedule permits, this inservice would be most appropriate on the Monday morning of the first week of the Enrollment Period.
3. Prepare enrollment materials for teachers	On the Friday immediately prior to the start of the Enrollment Period, prepare the enrollment materials for distribution. a. Each approved vocational class should be allotted two CHC's equal to the class enrollment this semester plus 10 percent. This extra amount of cards should allow for mistakes or mishandling by either the teacher or the students. More cards may be requested by the teacher if this amount is not enough. b. Prepare an Enrollment Worksheet for each approved vocational course by filling in the teacher's name, course name, course and section number, and attendance center number. Use your annual plan to determine the course/name and number and attendance center number. Note: If only one section of a course is being taught at a particular attendance center, assign the proper three-digit course number and "01" for the section number. If more than one section of a particular course is being taught at a particular attendance center, start with "01" and proceed in numerical order (01, 02, 03, 04, etc.) until each section has been assigned a unique section number. When you have prepared the Enrollment Worksheet, wrap it around the set of CEC's and CHC's you have counted out for that class.
4. Distribute enrollment materials to teachers	On the first Monday of the two-week enrollment period, distribute to each teacher the wrapped set of cards for each of his or her approved vocational course/sections. Note: Do not distribute cards and manual to a substitute teacher unless he or she is familiar with this enrollment procedure. Preferrably, distribute the materials when the regular teacher returns and allow the teacher until the end of the following day to return the data cards. If the teacher has not returned to school by Wednesday of the first week, arrange for another vocational teacher, one who has already administered the enrollment cards in his or her own class, to supervise the process in the absent teacher's class. If this is impossible, the LDC will have to see that the cards are completed by whatever method can best be established.

Activity

Description

NOTE: THE FOLLOWING ACTIVITIES (5 - 9) ARE TEACHER ACTIVITIES.

5. Instructions for administering the Course/Section Enrollment Card (DVTE 021)

In each approved vocational class you teach, administer the completion of the Course/Section Enrollment Cards, CEC, (DVTE 021) by the students.

Distribute to each student a blank Course/Section Enrollment Card. Read the following italicized directions to the students as they complete their cards:

a. *"A new data technique has been developed to simplify the reporting system for vocational education. Also, this new system will provide feedback to the schools which will help us offer better training programs and meet the employment demands in our area. Therefore, it is important that you fill out this card accurately. Wait for my directions to complete each section or block of your card and raise your hand if you have any questions."*

   "Use pencil only. Do not use a ballpoint, ink or felt-tip pen. If erasures must be made, erase the incorrect marks completely before coding the correct information."

   "When coding the response circles, blacken the circle completely but do not stray outside the bounds of the circle."

   "Before we start, check to see that your card is not bent or torn. If it is, raise your hand and I will give you a new one."

b. Block 1, Student Name:

   Have students print their name, beginning with the last name.

   "Turn to the front side of the card where Block 1 is located. For this block, you are to use your legal name -- the same name you would have on your social security card, driver's license, or the like."

   "Starting from the left, print your last name in the response boxes under 'Student's Last Name'. It is important that you start with the first box in each of these name sections on this side of the card. There are sixteen spaces available for your last name. If it is shorter than this, leave the extra spaces blank. If it is longer than this, print the first sixteen letters in your last name and leave the remaining letters off of the card. If your last name has a blank space or a dash, leave a corresponding space blank on the card. For instance, La (space) Rosa would have a blank box between 'La' and 'Rosa'."

   "Now do the same for your first name. If your first name exceeds eleven spaces, print in the first eleven letters of your first name and leave out the remaining letters. If it is shorter than eleven letters, leave the extra spaces blank. Remember to start in the left-hand box under 'First Name'.

   "Print your middle initial in the last box on the right, labeled 'Middle Initial'. If you do not have a middle name or initial, leave the box blank."

"Now go back and blacken the corresponding circle in the column below each box. Do not make any mark in a column below a blank response box."

c. Block 2, Social Security Number:

"Turn your card over. In Block 2, enter your social security number and code the proper response circle beneath each number. If you have a social security number but do not know it at this time, leave this section blank and get your social security number to me as soon as possible. If you do not have a social security number, put 'zeros' in the response boxes and code the zero circle in each column."

d. Block 3, Date of Birth:

"In Block 3, enter your date of birth, like this;

Under 'Month', write in the number that corresponds to the month you were born. If it is between January and September, put 'zero' in the first box and the corresponding number of the month in the second box. For example: January is written 'zero-one', February is 'zero-two', and so on. October is 'one-zero', November is 'one-one' and December is 'one-two'."

"Under 'Day', write the number of the day of the month you were born. If you were born before the 10th of the month, put a zero in the first box and the number of the day in the second box. For example: the first day of the month would be written 'zero-one' and so on to the highest possible day of 'three-one'."

"Under 'Year', write in the last two numbers of the year of your birth. For example, a person born in 1959 would write in 'five-nine'."

"Now blacken the corresponding circle below each box in the 'Date of Birth' block."

e. Block 4, Course Number/Section Number:

Copy onto the chalkboard the course/section number assigned to this class from your Enrollment Worksheet. Say:

"This is the number that goes into Block 4, 'Course Number/Section Number'. Write this number in the corresponding boxes and blacken the proper circle beneath each box."

f. Block 5, Attendance Center Number:

Erase the course/section number from the chalkboard and copy the attendance center number given on the Enrollment Worksheet. Say:

"This is the number that goes into Block 5, 'Attendance Center Number'. Write this number in the corresponding boxes and blacken the proper circle beneath each box."

6. To complete the CEC process

When all students present have completed their enrollment card, collect the cards. List on the Enrollment Worksheet those students presently enrolled in this class who did not complete a CEC (absentees). This will be your checklist to ensure that a card will be completed for each student enrolled in this class.

Retain your cards for each class, keeping each class in a separate bundle, until you have a completed card for all absentees. Cross off the names of students on the Enrollment Worksheets as they complete their CEC.

If any students have not returned to class by the day you are to have your course/section sets returned to the office or Local Data Coordinator, fill out cards for those students. The LDC has a list of vocational students (Report VE028) that can be used to secure the student's legal name, social security number, and birth date. Be sure to keep the cards from each class in separate sets.

7. Course/Section Header Card (DVTE 022)

For each class set of student CEC's, complete one Course/Section Header Card and insert it at the front of the class set. This card will "head" or identify the course/section set. Also, data included on the CHC will allow DAVTE to complete some federal reports which until now have had to be compiled by the local district. It may seem repetitious for you to code your name and social security number on each CHC, but it is necessary to ensure accuracy on the MIS computer.

8. Completing the CHC

The CHC is to be completed in the same manner as the student CEC. Instructions below are given briefly to explain the blocks peculiar to this card. Use pencil only, and erase any errors completely before making a change. Please note that you should both write in the boxes and blacken the circles for each block. This is important to the process that the MIS uses to correct any coding errors.

a. Block 1, Teacher's Name:

Print and code your name in this block. (The directions for completing Block 1 on the student CEC apply).

b. Block 2, Teacher's Social Security Number:

Write in and code your social security number.

c. Block 3, Attendance Center Number:

Write in and code the attendance center number given on the Enrollment Worksheet.

d. Block 4, Course Number/Section Number:

Write in and code the course/section numbers given on the Enrollment Worksheet for this particular class.

e. Block 5, Average Class Length in Minutes:

Write in and code the average length in minutes this class meets for each day it meets.

For example, if the class meets for 55 minutes per day, five days per week, your response should be "055." If the class meets for 110 minutes per day, five days per week, your response should be "110." If you meet 55 minutes per day for three days of the week and 110 minutes per day for two days of the week, your response should be the average class length to the nearest whole number, or "077."

f. Block 6, Number of Times This Course/Section Meets Per Week:

Write in and code the number of times this course/

section meets each week. For example, if this class meets one time each day of the school week, your response to this block should be "05." If your class meets twice a day for only four days per week, your response to this block should be "08."

g. Block 7, Number of Students Enrolled in This Course/Section:

Your response to this block should be the actual number of students registered or enrolled (as in your grade book or attendance record) for this class on the first day you have students complete CEC's.

Example: If the total number of enrollees in this class is thirty-three, your response should be "033." If the number is nine, your response should be "009."

Note: The number of cards you turn in at the end of your classroom enrollment period must equal the students enrolled in this class on the first day you administer the cards.

h. Block 8:

Leave this block blank. It is to be completed by the LDC.

i. If you teach more than one vocational class, please remember to keep each course/section's set of cards separated. The best way to do this is to wrap the Enrollment Worksheet around the course/section deck and secure with rubber bands. Paper clips should never be used because they damage the edge of the card.

9. To return the Course/Section sets to the LDC

At the end of the classroom enrollment period, count the number of completed CEC's to make sure you have one CEC for each student enrolled (as recorded in Block 7 of your CHC for that class).

If any CEC's are missing and the students are not available, you will have to complete their CEC's using the MIS Student Master List printout (VE028) available from the LDC.

By this time, all absent students you recorded on your Enrollment Worksheet should have been checked off.

Check the cards in each class set for completeness and proper coding as follows:

Taking each class set of CEC's:

1. Make sure that the proper CHC is inserted at the front of each class set.
2. Wrap the Enrollment Worksheet around its set and secure with a rubber band. Note: CEC's need not be arranged in any particular order within a class deck.
3. Group all your class decks together and secure with a heavy rubber band.
4. Return this package to your LDC at the location indicated on the Enrollment Worksheet.

NOTE: REMAINING ACTIVITIES PERTAIN TO THE LDC

10. Collect the Enrollment Period materials from the teachers

By the end of the first week of the Enrollment Period, the LDC should have collected all the materials used by the teachers.

Take the cards and return the usable ones to your inventory. Damaged or unusable cards should be discarded.

11. Review all Course/Section decks for completeness and accuracy

For each course/section set of CECS:

a. Confirm that one and only one Course/Section Header Card (CHC) has been submitted. Except for Block 8, all blocks should be completed.

b. Confirm that the attendance center number coded in Block 3 is accurate.

c. Confirm that the course number coded in Block 4 of the CHC corresponds to the three-digit course number assigned by DAVTE and that the section number corresponds to the number you assigned for that particular class.

   If the numbers in Block 4 are incorrect, the most likely problem will be that a course number has been incorrectly coded. If this is the case, erase completely the incorrect number and code the correct one. The next most likely problem is that the card has accidently been inserted with the wrong set of CEC's. If this is the case, look for a class set with the appropriate course number and check to see if a CHC is missing from that group.

d. Confirm that the completed number of CEC'sin each class set equals the total number of course/section enrollees coded in Block 7 of the CHC. If there is a discrepancy, consult the Enrollment Worksheet and/or the teacher to determine the cause of the discrepancy.

e. Once the discrepancy has been resolved and there is a CEC for each student enrolled in the class, write in and code the number of enrollees for that class in Block 8 of the CHC.

   Important: The number of CEC'sand the numbers in Blocks 7 and 8 of the CHC must be identical.

12. Complete an Attendance Center Header Card, AHC, (DVTE 023) for each attendance center enrollment deck.

Once Activity 11 is completed for all vocational course/section sets of cards in a given attendance center, complete an AHC for that attendance center as follows:

a. Use pencil only. If erasures must be made, erase completely before recoding the information.

b. Space 1: Print the attendance center name.

c. Space 2: Print the LDC's name.

d. Space 3: Print the telephone number where the Local Data Coordinator can be reached during the school day.

e. Block 4: Enter the attendance center number in the response boxes. Code the proper circle below each box by blackening the circle completely.

f. Block 5: Count the number of Course/Section Header Cards (DVTE 022) for the attendance center. Enter this number in the boxes and blacken the appropriate circle below each box. Note: A zero should be recorded in the first box if the number of CHC'sis 99 or less.

   Example: If 15 Course/Section Header Cards (DVTE 022) are counted, code the number "015." If 118 Course/

	Section Header Cards (DVTE 022) are counted, code the number "118."
13. How to organize your Enrollment Deck for mailing	Organize your total (school district) Enrollment Deck as follows: a. An AHC should be in front of the cards from each attendance center. b. The course/section card sets should be placed behind the AHC with a CHC in front of its particular set of CEC's. If you have more than one attendance center, repeat the process for each attendance center. Note: Other than keeping each attendance center deck headed by its AHC and each course/section set headed by its CHC, no other organization of the cards is necessary. (No alphabetizing of cards within a class or of teachers within an attendance center, etc., is necessary.) When the Enrollment Deck is packaged for mailing, please remove all rubber bands from the card sets.
14. Include Student Information Cards (DVTE 020) that have accumulated since the Declaration Period	Be sure to include any Student Information Cards (DVTE 020) that you have collected from new students who entered the attendance center since the last Declaration Period. Group these together and insert them at the front of the mailing box or package.
15. Complete the Transmittal Letter	When your total Enrollment Deck is organized and ready to package for mailing, complete two copies of the Transmittal Letter. Mail one copy of the Transmittal Letter directly to the MIS Control Unit. Insert the other copy in with the Enrollment Deck box or package.
16. Mailing the total Enrollment Deck	Package the cards, organized according to Activity 13, using box(es) provided by DAVTE. If only a few cards are to be mailed (less than 200), the cards can be packaged by being wrapped several times in heavy paper or some other suitable material and taped securely. Package the cards compactly and wrap and/or tape the packages securely. Mailed packages are often subjected to rough handling. If more than one package of cards are being sent, number each box "No. ___ of ___" so that the MIS Control Unit will know how many packages to expect. Mail the packages, First Class, to DAVTE.
17. Mailing Address of DAVTE	Mail the cards and transmittal letters to: MIS Control Unit Department of Adult, Vocational and Technical Education 100 North First Street, N-443 Springfield, Illinois 62777

At this point, the Enrollment Procedure is complete. All Enrollment Decks will now enter computer processing.

Your next regularly scheduled activity with regard to the MIS will be to participate in Procedure IV. Much of this is an error detection and correction process, and the amount of time you will have to spend with Procedure IV will be directly related to the accuracy and completeness of the Enrollment Decks and Student Information Cards from your district.

APPENDIX G

PROCEDURE IV -- VERIFICATION OF COURSE/SECTION ENROLLMENTS AND RECORDING HANDICAPPED AND/OR DISADVANTAGED SERVICES CODES

PROCEDURE IV

IMPORTANT: THE INFORMATION ON THE VE059 AND VE060 REPORTS MUST REFLECT THE COURSE/SECTION ENROLLMENTS AT THE TIME OF THE ENROLLMENT PERIOD. CHANGES IN COURSE/SECTION ENROLLMENTS SINCE THAT TIME ARE TO BE IGNORED WHEN VALIDATING THESE REPORTS.

When making corrections on the VE028, VE059 or VE060 Reports:

1. Draw a line through the data to be corrected and print the correct data immediately above.
2. Print corrections neatly, using a ball-point pen when possible.

Activity	Description
1. The LDC receives VE059, VE060 and VE028 Reports from DAVTE	These reports will be sent to the local district as soon as possible after receiving the Course/Section Enrollment Decks. The VE028 is an alphabetized master listing of students by attendance center who have an active record in the MIS. The VE059 is an alphabetized course/section listing of the students who completed a Course/Section Enrollment Card (DVTE 021) for that course/section. It is printed out in two sections: Section 1 lists the students for whom a master record was found in the MIS. Section 2 lists the students for whom the MIS could not find a master record. The VE060 is an alphabetized attendance center listing of students in the attendance center who have a master record in the MIS, but did not submit a CEC during this Enrollment Period.
2. Review the VE059 Reports and make necessary corrections	Do this activity as follows: a. Check the student information listed in Section 1 for accuracy; draw a line through any incorrect data and print the correction immediately above. b. Section 2 lists students for whom the MIS could not find a master record. Either they have not submitted a Student Information Card (DVTE 020), or the identifying data -- social security number or name -- on their Course/Section Enrollment Card (DVTE 021) did not match that submitted on their SIC. To determine if a SIC has been submitted, refer to the VE028, Student Master Listing: If the student's name is not on the VE028, a SIC must be completed and returned to DAVTE with the VE059. If the student is listed on the VE028, a coding error was made either on the SIC or on the CEC. Verify which entry on the two reports (VE028 or Section 2, VE059) is accurate and correct the erroneous entry on the incorrect report. Examples: If the error was on the CEC, correction of the erroneous data would be made in Section 2 of the VE059. If the SIC data was in error, the correction would be made on the VE028. It is possible that both cards may have represented inaccurate data. If so, both report listings would have to be corrected.

c. Check the proper column(s) on the VE059, Section 2, to indicate where the correction(s) were made.

d. Repeat Steps b & c for every student reported in Section 2 of the VE059.

3. Review the VE060, students not in a vocational course

This report lists students in the attendance center who have a master record but show no vocational course enrollment for this Enrollment Period.

a. A student will be on this report for several possible reasons and should be noted as follows:

   1. Was enrolled in the attendance center at the time of the Enrollment Period, but was not taking a vocational course. Check the appropriate column on the VE060.

   2. Was enrolled in the attendance center and was taking a vocational course, but shows no course activity because of a CEC error. Check the appropriate column to show that this has been corrected on the VE059 or VE028 Report.

   3. Was not enrolled in the attendance center at the time of the Enrollment Period (had transferred to another attendance center, dropped out, etc.). A line should be drawn through this student's name on the VE060 Report.

4. Record Handicapped/Disadvantaged designation on the VE059

In Procedure II, students with H/D conditions were noted on the VE027 Report which was returned to DAVTE to update the MIS. As the MIS printed each student's data on the VE059, it also listed any H/D condition(s) that had been reported for the student.

In Section 1, the codes reported for each student are listed. In Section 2, because the MIS could not find a master record, no codes are listed, but spaces are available for application H/D codes to be listed.

Keep in mind that a handicapped or disadvantaged condition may not have an effect on a student's ability to function in some vocational classes, and therefore, should not be claimed for an extra-service, add-on reimbursement. (For example, a student with a crippled foot may not be impaired in a typing class or a student two years over age may not qualify for extra services in a metals class.)

Circle in Section 1 or write in Section 2 only those H/D conditions for which extra services are being provided to improve the student's learning in that particular class.

5. LDC collects VE059 Reports

Once the H/D services have been noted on the VE059 Reports, they should be returned to the LDC for checking and mailing to DAVTE. (If the VE059s were distributed to other persons for the H/D coding, a completion date should have been set in order to ensure that the reports get back to the LDC promptly.

6. The completed VE028, VE059 and VE060 Reports are checked and returned to DAVTE

Make a last check of the Reports, especially the VE059s after the H/D coding is completed.

When all reports are collected and checked, mail them, First Class, to:

MIS Control Unit
Department of Adult, Vocational and
Technical Education
100 North First Street, N-443
Springfield, Illinois 62777

Note: How the LDC administers the activities in this procedure will depend on the make-up of the local district. In smaller districts, one person may be able to complete the validation activities on the VE028, VE059 and VE060. In larger districts, the activities most probably will be assigned to more than one person.

A suggested guide for the following activities is:

Activity 2. The VE059 should first be checked and corrected to ensure that every student eligible for reimbursement is on the listing in proper format. The VE028 and VE060 support this activity.

Activity 3. The VE060 is checked to report students who had exited the attendance center by the time of the Enrollment Period.

Activity 4. The person(s) aware of the extra services which are provided for handicapped/disadvantaged students in each vocational classroom (usually the guidance person or each teacher) should record the H/D data on the VE059.

Note: If more than one person records H/D services, extra copies of the H/D Code Key must be provided. If the VE059s are distributed for H/D coding, a date should be set for the completed reports to be returned to the LDC.

Activity 5. The corrected and H/D - coded VE059 Reports are collected and reviewed once again for accuracy before mailing to DAVTE.

This completes Procedure IV. DAVTE will process all corrections to the VE028, VE059 and VE060, and will add the indicated H/D information to the reimbursement calculations. The MIS will calculate the reimbursement for each district. A corrected listing will be reported back for each course/section.

APPENDIX H

SURVEY FORM FOR ANTICIPATED OCCUPATIONAL TRAINING COMPLETORS IN NON-PUBLIC INSTITUTIONS

(Name)

(Address)

(Phone)

(Contact Person)

GUMMED ADDRESS LABEL

☐ Survey Results Desired

Please Complete and Return To:
Garth Yeager
Management Information System
DAVTE, N-443
100 North First Street
Springfield, Illinois 62777

SURVEY FORM FOR ANTICIPATED OCCUPATIONAL TRAINING COMPLETIONS IN NON-PUBLIC INSTITUTIONS

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
For Office Use Only	Program Titles (See list of definitions for description)	Training Programs Offered During		Estimated Completions	
		1974-1975	1975-1976	1974-1975	1975-1976
01.0100	AGRICULTURAL PRODUCTION				
01.0101	Animal Science				
01.0102	Plant Science				
01.0200	AGRICULTURAL SUPPLY AND SERVICE				
01.0201	Agricultural Chemicals				
01.0300	AGRICULTURE MECHANICS				
01.0400	AGRICULTURAL PRODUCTS				
01.0500	ORNAMENTAL HORTICULTURE				
01.0501	Arboriculture				
01.0502	Floriculture				
01.0503	Greenhouse Operations and Management				
01.0504	Landscaping				
01.0505	Nursery Operation and Management				
01.0506	Turf Management				
01.0600	AGRICULTURAL RESOURCES				
01.0603	Soil Conservationist				
01.0605	Water Conservationist				
01.0700	FORESTRY				
01.0703	Logging				
04.0100	ADVERTISING SERVICES				
04.0200	APPAREL AND ACCESSORIES (SALES)				
04.0300	AUTOMOTIVE SALES				
04.0400	FINANCE AND CREDIT				
04.0500	FLORISTRY (SALES)				

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
For Office Use Only	Program Titles (See list of definitions for description)	Training Programs Offered During		Estimated Completions	
		1974-1975	1975-1976	1974-1975	1975-1976
04.0600	FOOD DISTRIBUTION (SALES)				
04.0700	FOOD SERVICES (SALES)				
04.0800	GENERAL MERCHANDISE (SALES)				
04.0900	HARDWARE, BUILDING MATERIALS (SALES)				
04.1000	HOME FURNISHINGS (SALES)				
04.1100	HOTEL AND LODGING SERVICES				
04.1200	INDUSTRIAL MARKETING (SALES)				
04.1300	INSURANCE (SALES)				
04.1400	INTERNATIONAL TRADES (SALES)				
04.1500	PERSONAL SERVICES (SALES)				
04.1600	PETROLEUM (SALES)				
04.1700	REAL ESTATE (SALES)				
04.1800	RECREATION AND TOURISM SERVICES				
04.1900	TRANSPORTATION (SALES)				
04.2000	RETAIL TRADE				
04.3100	WHOLESALE TRADE				
04.9900	DISTRIBUTIVE EDUCATION, OTHER				
04.9901	Small Business Management				
04.9902	Distributive Education Marketing Cooperative				
07.0100	DENTAL				
07.0101	Dental Assisting				
07.0102	Dental Hygiene				
07.0103	Dental Laboratory Technology				
07.0200	MEDICAL LABORATORY TECHNOLOGY				
07.0201	Cytology				
07.0202	Histology				
07.0203	Medical Laboratory Assisting				
07.0204	Hematology				
07.0300	NURSING				
07.0301	Nursing (Associate Degree)				
07.0302	Practical Nursing				
07.0303	Nurse Aide				
07.0304	Psychiatric Aide				
07.0305	Surgical Technician (Operating Room Technology)				
07.0306	Obstetrical Technician				
07.0307	Home Health Aide				
07.0308	School Health Aide				
07.0400	REHABILITATION AIDE				
07.0401	Occupational Therapy Aide				

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Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
For Office Use Only	Program Titles (See list of definitions for description)	Training Programs Offered During		Estimated Completions	
		1974-1975	1975-1976	1974-1975	1975-1976
07.0402	Physical Therapy Aide				
07.0403	Prosthetics				
07.0404	Orthotics				
07.0500	RADIOLOGIC AIDE				
07.0501	Radiologic Technology (X-Ray)				
07.0502	Radiation Therapy Assisting				
07.0503	Nuclear Medical Technology				
07.0600	OPHTHALMIC				
07.0601	Ophthalmic Dispensing				
07.0602	Orthoptics				
07.0603	Optometrist Assisting				
07.0700	ENVIRONMENTAL HEALTH				
07.0701	Environmental Health Assisting				
07.0702	Radiological Health Technology				
07.0703	Sanitarian Assisting				
07.0800	MENTAL HEALTH TECHNOLOGY				
07.0801	Mental Health Assisting				
07.0802	Mental Retardation Aide				
07.0900	HEALTH CARE AIDE				
07.0901	Electroencephalograph Technology				
07.0902	Electrocardiograph Technology				
07.0903	Inhalation Therapy				
07.0904	Medical Assisting				
07.0905	Central Supply Technology				
07.0906	Health Aide				
07.0907	Medical Emergency Technology				
07.0908	Food Service Health Supervision				
07.0909	Mortuary Science				
07.0910	Pharmacy Aide				
07.9911	Recreational Therapy Aide				
07.9912	Geriatric Aide				
07.9913	Medical Records				
07.9914	Hospital Ward Clerk				
09.0200	HOME ECONOMIST ASSISTING				
09.0201	Child Care				
09.0202	Clothing Management, Production and Services				
09.0203	Food Management, Production and Services				
09.0204	Home Furnishing, Equipment and Services				
09.0205	Institution and Home Management Services				
14.0100	ACCOUNTING AND COMPUTING OCCUPATIONS				
14.0102	Bookkeeping				
14.0103	Cashiers				
14.0104	Machine Operation				
14.0105	Bank Tellers				
14.0200	BUSINESS DATA PROCESSING SYSTEMS				
14.0201	Computer and Console Operations				
14.0202	Keypunch, Coding and Peripheral Equipment Operations				
14.0203	Computer Programming				
14.0204	Systems Analysis				
14.0300	FILING, OFFICE MACHINES AND GENERAL OFFICE CLERICAL OCCUPATIONS				

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
For Office Use Only	Program Titles (See list of definitions for description)	Training Programs Offered During		Estimated Completions	
		1974-1975	1975-1976	1974-1975	1975-1976
14.0301	Duplicating Machine Operations				
14.0302	File Clerking				
14.0303	General Office Clerking				
14.0400	INFORMATION COMMUNICATION OCCUPATIONS				
14.0401	Communication Systems Clerking				
14.0402	Correspondence Clerking				
14.0403	Mail and Postal Clerking				
14.0404	Mail-Preparing and Mail-Handling Operations				
14.0405	Messengers and Office Services				
14.0406	Receptionist and Information Clerking				
14.0500	MATERIALS SUPPORT OCCUPATIONS (TRANSPORTING, STORING AND RECORDING)				
14.0501	Planning and Production Clerking				
14.0502	Quality Control Clerking				
14.0503	Shipping and Receiving Clerking				
14.0504	Stock and Inventory Clerking				
14.0505	Traffic, Rate and Transportation Clerking				
14.0600	PERSONNEL, TRAINING AND RELATED OCCUPATIONS				
14.0601	Educational and Training Assisting				
14.0602	Interviewers and Test Technology				
14.0603	Personnel Assisting				
14.0700	STENOGRAPHIC, SECRETARIAL AND RELATED OCCUPATIONS				
14.0701	Executive Secretary Science				
14.0702	Secretarial				
14.0703	Stenography				
14.0800	SUPERVISORY AND ADMINISTRATIVE MANAGEMENT OCCUPATIONS				
14.0801	Administrative Assisting				
14.0802	Budget Management Analysis				
14.0803	Clerical Office Supervision				
14.0804	Data-Method and System-Procedure Analysis				
14.0805	Office Managers and Chief Clerking				
14.0900	TYPING AND RELATED OCCUPATIONS				
14.0901	Clerk-Typist				
14.0902	Typist				
16.0100	ENGINEERING-RELATED TECHNOLOGY				
16.0101	Aeronautical Technology				
16.0103	Architectural Technology				
16.0104	Automotive Technology				
16.0105	Chemical Technology				
16.0106	Civil Technology				
16.0107	Electrical Technology				
16.0108	Electronic Technology				
16.0109	Electromechanical Technology				
16.0110	Environmental Control Technology				
16.0111	Industrial Technology				
16.0112	Instrumental Technology				
16.0113	Mechanical Technology				
16.0114	Metallurgical Technology				
16.0115	Nuclear Technology				
16.0116	Petroleum Technology				
16.0117	Scientific Data Processing				
16.0400	OFFICE RELATED TECHNOLOGY				

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
For Office Use Only	Program Titles (See list of definitions for description)	Training Programs Offered During		Estimated Completions	
		1974-1975	1975-1976	1974-1975	1975-1976
16.0600	MISCELLANEOUS TECHNICAL EDUCATION				
16.0601	Commercial Pilot Training				
16.0602	Fire and Fire Safety Technology				
16.0603	Forestry Technology				
16.0604	Oceanographic Technology				
16.0605	Police Science Technology				
16.9901	Air Pollution Technology				
16.9902	Water and Waste Water Technology				
16.9903	Quality Control Technology				
16.9904	Numerical Control Technology				
16.9905	Optics Technology				
16.9906	Plastics Technology				
16.9907	Radio and Television Engineering Assisting				
17.0100	AIR CONDITIONING				
17.0102	Heating				
17.0103	Ventilating (Filtering and Humidifying)				
17.0200	APPLIANCE REPAIR				
17.0201	Electrical Appliances Repair				
17.0202	Gas Appliance Repair				
17.0300	AUTOMOTIVE SERVICES				
17.0301	Body and Fender Repair				
17.0302	Auto Mechanics				
17.0400	AVIATION OCCUPATIONS				
17.0401	Aircraft Maintenance				
17.0402	Aircraft Operations				
17.0403	Ground Operations				
17.0600	BUSINESS MACHINE MAINTENANCE				
17.0700	COMMERCIAL ART				
17.0701	Interior Decorating				
17.0702	Window Display				
17.0703	Product Designer				
17.0800	COMMERCIAL FISHERY OCCUPATIONS				
17.0801	Seamanship				
17.0802	Ship and Boat Operation and Maintenance				
17.0900	COMMERCIAL PHOTOGRAPHY				
17.1000	CONSTRUCTION AND BUILDING TRADES				
17.1001	Carpentry				
17.1002	Construction Electricity				
17.1003	Heavy Equipment Operation and Maintenance				
17.1004	Masonry				
17.1005	Painting and Decorating				
17.1007	Plumbing and Pipefitting				
17.1008	Dry Wall Installation				
17.1100	CUSTODIAL SERVICES				
17.1200	DIESEL MECHANIC				
17.1300	DRAFTING				
17.1400	ELECTRICAL OCCUPATIONS				
17.1401	Industrial Electrician				
17.1402	Line Repairers				
17.1403	Motor Repairers				

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
For Office Use Only	Program Titles (See list of definitions for description)	Training Programs Offered During		Estimated Completions	
		1974-1975	1975-1976	1974-1975	1975-1976
17.1500	ELECTRONICS OCCUPATIONS				
17.1501	Communications Electronics				
17.1502	Industrial Electronics				
17.1503	Radio/Television Repair				
17.1600	FABRIC MAINTENANCE SERVICES				
17.1601	Dry Cleaning				
17.1602	Laundering				
17.1700	FOREMANSHIP, SUPERVISION AND MANAGEMENT				
17.1900	GRAPHIC ARTS				
17.1901	Composition, Makeup and Typesetting				
17.1902	Printing Press Operation				
17.1903	Lithography, Photography and Platemaking				
17.1904	Photoengraving				
17.1905	Silk Screen Making and Printing				
17.1906	Bookbinding				
17.2000	INDUSTRIAL ATOMIC ENERGY				
17.2001	Installation, Operation and Maintenance of Reactors				
17.2002	Radiography				
17.2003	Industrial Use of Radioisotopes				
17.2100	INSTRUMENT MAINTENANCE AND REPAIR				
17.2101	Instruments Repair (Other Than Watch)				
17.2102	Watchmaking and Repair				
17.2200	MARITIME MAINTENANCE AND SERVICES				
17.2300	METALWORKING				
17.2301	Foundry				
17.2302	Machine Shop				
17.2303	Machine Tool Operations (Semi-Skilled)				
17.2304	Combined Metal Trades				
17.2305	Sheet Metal				
17.2306	Welding				
17.2307	Tool and Die Making				
17.2308	Die Sinking				
17.2309	Metal Patternmaking				
17.2400	METALLURGY				
17.2600	PERSONAL SERVICES				
17.2601	Barbering				
17.2602	Cosmetology				
17.2700	PLASTICS MANUFACTURING				
17.2800	PUBLIC SERVICE OCCUPATIONS				
17.2801	Fire Prevention and Control				
17.2802	Law Enforcement				
17.3000	REFRIGERATION				
17.3100	SMALL ENGINE REPAIR				
17.3200	STATIONARY ENERGY SOURCES				
17.3400	LEATHER MANUFACTURING AND REPAIR				
17.3500	UPHOLSTERING				

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
For Office Use Only	Program Titles (See list of definitions for description)	Training Programs Offered During		Estimated Completions	
		1974-1975	1975-1976	1974-1975	1975-1976
17.3600	WOODWORKING				
17.3601	Millwork and Cabinet Working				

This space is provided for occupational training programs offered which are not listed in Column 2.

APPENDIX I

DATA COLLECTION FORMS TO BE COMPLETED BY VOCATIONAL TEACHERS

New Personnel Information Form
Form A

GENERAL INSTRUCTIONS

A. *Complete this form if:*
   1) *You were not in this school district during the last school year, or*
   2) *You were in this school district during the last school year, but were not a teacher and/or an administrator in a vocational education program.*

B. *Return the completed form to your Local Data Coordinator. If assistance is needed in completing the form, also contact the Local Data Coordinator.*

---

1. NAME---*Record the first sixteen (16) letters (including blanks, hyphens, etc.) of your last name and the first eleven (11) letters of your first name.*

LAST NAME ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

FIRST NAME ☐☐☐☐☐☐☐☐☐☐☐

2. SOCIAL SECURITY NUMBER

☐☐☐-☐☐-☐☐☐☐

3. ATTENDANCE CENTER NUMBER

☐☐☐☐-☐☐

4. PAST SCHOOL YEAR ACTIVITY---*Please check the ONE response that best indicates what you were doing during the past school year (9/1 - 8/31).*

______ A. In a different school district within Illinois.
______ B. In a different school district outside Illinois.
______ C. In this school district, but not in vocational education.
______ D. Enrolled in a college or university.
______ E. Employed in a non-education occupation.
______ F. Unemployed and actively seeking employment.
______ G. Unemployed and not actively seeking employment.
______ H. Leave of absence.
______ I. Other (Specify)______________________________

5. SCHOOL YEAR STARTED TEACHING---*Record the school year that you first held a full-time teaching and/or administrative position.*

19☐☐ 19☐☐

6. EDUCATIONAL DEGREES---*Please check each degree you have earned, record the year it was conferred, and indicate the main area of study (codes for the area of study are on the back of this form).*

DEGREE	YEAR CONFERRED	AREA OF STUDY	IF CODE IS USED, PLEASE SPECIFY AREA BELOW
______ License Professional Occupational	19☐☐	☐☐	Other:______________________
______ Associate	19☐☐	☐☐	Other:______________________
______ Bachelor's	19☐☐	☐☐	Other:______________________
______ Master's	19☐☐	☐☐	Other:______________________
______ Specialist	19☐☐	☐☐	Other:______________________
______ Doctorate	19☐☐	☐☐	Other:______________________

7. WORK EXPERIENCE---*Please check the ONE response that best quantifies your related work experience as it pertains to certification requirements and indicate the area of experience (codes for the area of experience are on the back of this form).*

WORK EXPERIENCE

______ A. None
______ B. Less than 6 months
______ C. More than 6 months/1000 hrs.
______ D. More than 1 year/2000 hrs.
______ E. More than 2 years/4000 hrs.
______ F. More than 3 years/6000 hrs.
______ G. More than 4 years/8000 hrs.

AREA OF EXPERIENCE ☐☐

IF CODE 99 IS USED, PLEASE SPECIFY AREA BELOW Other:______________________

Education and/or Work Experience Update
Form B

GENERAL INSTRUCTIONS

A. *Complete this form only if you have:*
   1) *Participated in inservice educational training during the past 12 months (9/1-8/31), or*
   2) *Earned a new educational degree during the past 12 months (9/1-8/31) or*
   3) *Acquired additional work experience during the past 12 months (9/1-8/31) that pertains to certification requirements.*

Otherwise, sign your name and return the blank form to your Local Data Coordinator.

***** *Signed:* ______________________ ______________________ *****

B. *Return the completed form to your Local Data Coordinator. If assistance is needed in completing the form, also contact the Local Data Coordinator.*

---

1. NAME---*Record the first sixteen (16) letters (including blanks, hyphens, etc.) of your last name and the first eleven (11) letters of your first name.*

LAST NAME	FIRST NAME
☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐	☐☐☐☐☐☐☐☐☐☐☐

2. SOCIAL SECURITY NUMBER

☐☐☐-☐☐-☐☐☐☐

3. ATTENDANCE CENTER NUMBER

☐☐☐☐-☐☐

4. INSERVICE TRAINING---*During the past 12 months (9/1-8/31), I completed the following inservice educational activities (check all applicable activities).*

______ A. Participated in one day of inservice training.
______ B. Participated in two to five days of inservice training.
______ C. Participated in more than five days of inservice training.
______ D. Completed one course for university credit.
______ E. Completed more than one course for university credit.

5. NEW EDUCATION DEGREE--- *If you acquired additional work experience in the past 12 months (9/1-8/31) that pertains to Illinois certification requirements, please check the response that best quantifies the related work experience and indicate the area of the experience (codes for the area of the experience are on the back of this form).*

DEGREE	AREA OF STUDY	IF CODE 99 IS USED, PLEASE SPECIFY BELOW
______ A. License {Professional Occupational}	☐☐	Other: ______________________
______ B. Associate	☐☐	Other: ______________________
______ C. Bachelor's	☐☐	Other: ______________________
______ D. Master's	☐☐	Other: ______________________
______ E. Specialist	☐☐	Other: ______________________
______ F. Doctorate	☐☐	Other: ______________________

6. ADDITIONAL WORK EXPERIENCE---*If you acquired additional work experience in the past 12 months (9/1-8/31) that pertains to Illinois certification requirements, please check the response that best quantifies the related work experience and indicate the area of the experience (codes for the area of the experience are on the back of this form.*

WORK EXPERIENCE	AREA OF EXPERIENCE	IF CODE 99 IS USED, PLEASE SPECIFY AREA BELOW
______ A. No additional work experience. ______ B. Less than 1 month (less than 160 hrs.) ______ C. Between 1 and 2 months (160 to 320 hrs.) ______ D. Between 2 and 3 months (321 to 480 hrs.) ______ E. Between 3 and 6 months (481 to 1,000 hrs.) ______ F. Between 6 and 12 months (1,001 to 2,000 hrs.)	☐☐	Other: ______________

Codes For Education And Work Experience

GENERAL INSTRUCTIONS

The following two-digit codes should be used to indicate (1) the major area of study for those questions that relate to earned educational degrees, and (2) the major area of experience for those questions that relate to work experience as it pertains to certification requirements. Locate the program title that best describes the area of concentration and record the corresponding two-digit code number in the proper response boxes on the front page of this form.

APPLIED BIOLOGICAL AND AGRICULTURAL

01 - Agricultural Management
02 - Agricultural Mechanics
03 - Agricultural Production
04 - Agricultural Sales and Services
05 - Forestry
06 - Horticulture
07 - Soil and Water Conservation
08 - Turf Management

BUSINESS, MARKETING AND MANAGEMENT

09 - Accounting
10 - Clerical
11 - Computer Programming and Operation
12 - Distributive and Marketing
13 - Keypunch, Coding and Peripheral
14 - Manager
15 - Sales Worker
16 - Secretarial

HEALTH OCCUPATIONS

17 - Dental Assistant
18 - Dental Hygienist
19 - Dental Lab Technician
20 - Dentist
21 - Dietician
22 - Electrocardiograph Technologist
23 - Electroencephalograph Technologist
24 - Inhalation Therapist
25 - Medical Doctor
26 - Medical Lab Technician
27 - Medical Lab Technologist
28 - Mortician
29 - Occupational Therapist
30 - Ophthalmic Technician
31 - Optometrist
32 - Orthotics Technician
33 - Physical Therapist
34 - Prosthetics Technician
35 - Psychiatrist
36 - Psychologist
37 - Registered Medical Emergency Technologist
38 - Registered Nurse
39 - X-Ray Technician

PERSONAL AND PUBLIC SERVICE

40 - Child Care
41 - Clothing Management, Products and Services
42 - Consumer Economics
43 - Food Management, Products and Services
44 - Home Furnishing, Equipment and Services
45 - Institution and Home Management Services
46 - Interior Decorating

47 - Air Pollution
48 - Barbering
49 - Cosmetology
50 - Custodial
51 - Dry Cleaning
52 - Fire Technology
53 - Laundering
54 - Law Enforcement
55 - Waste Water

INDUSTRIAL ORIENTED

56 - Atomic
57 - Auto Mechanics
58 - Body and Fender
59 - Chemical
60 - Construction Trades
61 - Drafting
62 - Electricity
63 - Electronics
64 - Graphic Arts
65 - Heating, Air Conditioning, Ventilating
66 - Metalworking
67 - Plastics
68 - Plumbing
69 - Power Mechanics
70 - Repairers
71 - Welding
72 - Woodworking

ADMINISTRATION AND GUIDANCE

73 - Guidance and Counseling
74 - Administration General Supervisory
75 - Administration General Administration
76 - Administration Superintendent

OTHER

99 - Other

APPENDIX J

OCCUPATIONS FOR WHICH MANPOWER DEMAND PROJECTIONS ON A REGIONAL AND STATE BASIS ARE COMPILED AND DISSEMINATED WITHIN THE STATE OF ILLINOIS

Number	Census Title
1	Professional, Technical, Kindred
1.0.1	Engineers, Technical
1.0.1.1	Engineers, Aero-Astronautic
1.0.1.2	Engineers, Chemical
1.0.1.3	Engineers, Civil
1.0.1.4	Engineers, Electrical
1.0.1.5	Engineers, Industrial
1.0.1.6	Engineers, Mechanical
1.0.1.7	Engineers, Metallurgical
1.0.1.8	Engineers, Mining
1.0.1.9	Engineers, Petroleum
1.0.1.10	Engineers, Sales
1.0.1.11	Engineers, Other
1.0.2	Life and Physical Scientists
1.0.2.1	Agricultural Scientists
1.0.2.2	Atmospheric, Space Scientists
1.0.2.3	Biological Scientists
1.0.2.4	Chemists
1.0.2.5	Geologists
1.0.2.6	Marine Scientists
1.0.2.7	Physicists and Astronomers
1.0.2.8	Life, Physical Scientists NEC
1.0.3	Mathematical Specialists
1.0.3.1	Actuaries
1.0.3.2	Mathematicians
1.0.3.3	Statisticians
1.0.4	Engineering, Science Technician
1.0.4.1	Agricultural, Biological Technician Except Health
1.0.4.2	Chemical Technicians
1.0.4.3	Drafters
1.0.4.4	Electrical, Electronic Technician
1.0.4.5	Industrial Engineering Technician
1.0.4.6	Mathematical Technician
1.0.4.7	Mechanical Engineering Technician
1.0.4.8	Surveyors
1.0.4.9	Engineering, Science Technician NEC
1.0.5	Medical Workers, Except Technician
1.0.5.1	Chiropractors
1.0.5.2	Dentists
1.0.5.3	Dietitians
1.0.5.4	Optometrists
1.0.5.5	Pharmacists
1.0.5.6	Physicians: M. D., Osteopaths
1.0.5.7	Podiatrists
1.0.5.8	Registered Nurses
1.0.5.9	Therapists
1.0.5.10	Veterinarians
1.0.5.11	Other Medical and Health
1.0.6	Health Technologist and Technician
1.0.6.1	Clinical Lab. Technologist, Technician
1.0.6.2	Dental Hygienists
1.0.6.3	Health Record Technologist, Technician
1.0.6.4	Radiologic Technologist, Technician
1.0.6.5	Therapy Assistants
1.0.6.6	Other Health Technologist, Technician
1.0.7	Technicians, Except Health
1.0.7.1	Airplane Pilots
1.0.7.2	Air Traffic Controllers
1.0.7.3	Embalmers
1.0.7.4	Flight Engineers
1.0.7.5	Radio Operators
1.0.7.6	Tool Programmers, Numerical
1.0.7.7	Other Technicians, Except Health
1.0.8	Computer Specialists
1.0.8.1	Computer Programmers
1.0.8.2	Computer Systems Analysts
1.0.8.3	Other Computer Specialists, NEC
1.0.9	Social Scientists
1.0.9.1	Economists
1.0.9.2	Political Scientists
1.0.9.3	Psychologists
1.0.9.4	Sociologists
1.0.9.5	Urban and Regional Planners
1.0.9.6	Other Social Scientists
1.0.10	Teachers
1.0.10.1	Adult Education Teachers
1.0.10.2	Agriculture Teachers
1.0.10.3	Art, Drama, Music Teachers
1.0.10.4	Atmospheric, Earth, Marine
1.0.10.5	Biology Teachers
1.0.10.6	Business, Commerce Teachers
1.0.10.7	Chemistry Teachers
1.0.10.8	Coaches, Physical Education Teachers
1.0.10.9	Economics Teachers
1.0.10.10	Education Teachers
1.0.10.11	Elementary School Teachers
1.0.10.12	Engineering Teachers
1.0.10.13	English Teachers
1.0.10.14	Foreign Language Teachers
1.0.10.15	Health Specialties Teachers
1.0.10.16	History Teachers
1.0.10.17	Home Economics Teachers
1.0.10.18	Law Teachers
1.0.10.19	Mathematics Teachers
1.0.10.20	Physics Teachers
1.0.10.21	Preschool, Kindergarten
1.0.10.22	Psychology Teachers
1.0.10.23	Secondary School Teachers
1.0.10.24	Sociology Teachers
1.0.10.25	Social Science Teachers, NEC
1.0.10.26	Misc. College and University
1.0.10.27	College, University, NEC
1.0.10.28	Theology Teachers
1.0.10.29	Trade, Industrial Teachers
1.0.10.30	Teachers NEC, Except College and University
1.0.11	Writers, Artists, Entertainers
1.0.11.1	Actors
1.0.11.2	Athletes and Kindred Workers
1.0.11.3	Authors
1.0.11.4	Dancers
1.0.11.5	Designers
1.0.11.6	Editors and Reporters
1.0.11.7	Musicians and Composers
1.0.11.8	Painters and Sculptors
1.0.11.9	Photographers
1.0.11.10	Public Relations Specialists, Writers
1.0.11.11	Radio, TV Announcers
1.0.11.12	Writers, Artists, Entertainers, NEC
1.0.12	Other Professional, Technical
1.0.12.1	Accountants
1.0.12.2	Architects
1.0.12.3	Archivists and Curators
1.0.12.4	Clergy
1.0.12.5	Religious, Except Clergy
1.0.12.6	Farm Management Advisors
1.0.12.7	Foresters, Conservationists
1.0.12.8	Home Management Advisors
1.0.12.9	Judges
1.0.12.10	Lawyers
1.0.12.11	Librarians
1.0.12.12	Operations, Systems Research

Number	Census Title
1.0.12.13	Personnel, Labor Relations
1.0.12.14	Research Workers, NEC
1.0.12.15	Recreation Workers
1.0.12.16	Social Workers
1.0.12.17	Vocational, Education Counselors
2	Managers, Officials, Proprietors
2.0.1	Buyers, Sales, Loan Managers
2.0.1.1	Bank, Financial Managers
2.0.1.2	Credit Managers
2.0.1.3	Buyers, Shippers, Farm Producers
2.0.1.4	Buyers, Wholesale, Retail
2.0.1.5	Purchasing Agents, Buyers, NEC
2.0.1.6	Sales Manager, Retail Trade
2.0.1.7	Sales Manager, Except Retail Trade
2.0.2	Administrators, Public Inspectors
2.0.2.1	Assess, Control, Local Public Administrator
2.0.2.2	Construction Inspector, Public
2.0.2.3	Health Administrators
2.0.2.4	Inspectors, Except Construction Public
2.0.2.5	Officials, Administration, Public, NEC
2.0.2.6	Postmasters, and Mail Supervisors
2.0.2.7	School Administrator, College
2.0.2.8	School Administrator, Elementary, Secondary
2.0.3	Other Managers, Officials, Proprietors
2.0.3.1	Funeral Directors
2.0.3.2	Managers, Superintendents, Building
2.0.3.3	Office Managers, NEC
2.0.3.4	Officers, Pilots, Pursers, Ship
2.0.3.5	Officials of Lodges, Unions
2.0.3.6	Railroad Conductors
2.0.3.7	Restaurant, Cafe, Bar Managers
2.0.3.8	Other Managers, Administrators
3	Sales Workers
3.0.0.1	Advertising Agents, Sales Workers
3.0.0.2	Auctioneers
3.0.0.3	Demonstrators
3.0.0.4	Hucksters and Peddlers
3.0.0.5	Insurance Agents, Brokers, Etc.
3.0.0.6	Newspaper Carriers
3.0.0.7	Real Estate Agents, Brokers
3.0.0.8	Stock and Bond Sales Agents
3.0.0.9	Sales Representatives, Manufacturing
3.0.0.10	Sales Representatives, Wholesale Trade
3.0.0.11	Sales Clerks, Retail Trade
3.0.0.12	Sales Workers, Retail Trade
3.0.0.13	Sales Workers, Service and Construction
4	Clerical Workers
4.0.1	Secretaries, Stenographers, Typists
4.0.1.1	Secretaries, Legal
4.0.1.2	Secretaries, Medical
4.0.1.3	Secretaries, Other
4.0.1.4	Stenographers
4.0.1.5	Typists
4.0.2	Office Machine Operators
4.0.2.1	Bookkeeping, Billing Operators
4.0.2.2	Calculating Machine Operators
4.0.2.3	Computer, Peripheral Equipment
4.0.2.4	Duplicating Machine Operators
4.0.2.5	Keypunch Operators
4.0.2.6	Tabulating Machine Operators
4.0.2.7	Other Office Machine Operators
4.0.3	Other Clerical Workers
4.0.3.1	Bank Tellers
4.0.3.2	Billing Clerks
4.0.3.3	Bookkeepers
4.0.3.4	Cashiers
4.0.3.5	Clerical Assistants, Social Welfare
4.0.3.6	Clerical Supervisors, NEC
4.0.3.7	Collectors, Bill and Account
4.0.3.8	Counter Clerks, Except Food
4.0.3.9	Dispatchers, Starter, Vehicle
4.0.3.10	Enumerators and Interviewers
4.0.3.11	Estimators, Investigators, NEC
4.0.3.12	Expediters, Production Controllers
4.0.3.13	File Clerks
4.0.3.14	Insurance Adjusters, Examiners
4.0.3.15	Library Attendants, Assistant
4.0.3.16	Mail Carriers, Post Office
4.0.3.17	Mail Handler, Except Post Office
4.0.3.18	Messengers and Office Helpers
4.0.3.19	Meter Readers, Utilities
4.0.3.20	Payroll, Time Keeping Clerks
4.0.3.21	Postal Clerks
4.0.3.22	Proofreaders
4.0.3.23	Real Estate Appraisers
4.0.3.24	Receptionists
4.0.3.25	Shipping, Receiving Clerks
4.0.3.26	Statistical Clerks
4.0.3.27	Stock Clerks, Store Keepers
4.0.3.28	Teachers Aides, Except Monitors
4.0.3.29	Telegraph Messengers
4.0.3.30	Telegraph Operators
4.0.3.31	Telephone Operators
4.0.3.32	Ticket Station, Express Agents
4.0.3.33	Weighers
4.0.3.34	Misc. Clerical Workers, NEC
5	Craft, and Kindred Workers
5.0.1	Construction Crafts Workers
5.0.1.1	Carpenters
5.0.1.2	Carpenters Apprentices
5.0.1.3	Brickmasons and Stonemasons
5.0.1.4	Brickmasons and Stonemasons Apprentices
5.0.1.5	Bulldozer Operators
5.0.1.6	Cement, Concrete Finishers
5.0.1.7	Electricians
5.0.1.8	Electrician Apprentices
5.0.1.9	Excavating, Grading Machine Operators
5.0.1.10	Floor Layers, Except Tile Setters
5.0.1.11	Painters, Construction, Maintenance
5.0.1.12	Painter Apprentices
5.0.1.13	Paperhangers
5.0.1.14	Plasterers
5.0.1.15	Plasterer Apprentices
5.0.1.16	Plumbers and Pipefitters
5.0.1.17	Plumbers, Pipefitters Apprentices
5.0.1.18	Roofer and Slaters
5.0.1.19	Structural Metal Craft
5.0.1.20	Tilesetters
5.0.2	Blue-Collar Supervisors, NEC
5.0.3	Metalworking Crafts, Except Mechanics
5.0.3.1	Blacksmiths
5.0.3.2	Boilermakers
5.0.3.3	Heat Treaters, Annealers, Etc.
5.0.3.4	Forge and Hammer Operations
5.0.3.5	Job and Die Setters, Metal
5.0.3.6	Machinists
5.0.3.7	Machinist Apprentice
5.0.3.8	Millwrights
5.0.3.9	Molders, Metal
5.0.3.10	Molders, Apprentice

Number	Census Title
5.0.3.11	Pattern and Model Makers
5.0.3.12	Rollers and Finishers, Metal
5.0.3.13	Sheet Metal Workers, Tinsmiths
5.0.3.14	Sheet Metal Apprentices
5.0.3.15	Tool, Diemakers
5.0.3.16	Tool, Diemaker Apprentices
5.0.4	Mechanics, Repairers, Installers
5.0.4.1	Air Conditioning, Heating, Refrigeration
5.0.4.2	Aircraft
5.0.4.3	Auto Accessories Installers
5.0.4.4	Auto Body Repairers
5.0.4.5	Auto Mechanics
5.0.4.6	Auto Mechanics Apprentices
5.0.4.7	Data Processing Machine Repairers
5.0.4.8	Farm Implement
5.0.4.9	Heavy Equipment Mechanics, Including
5.0.4.10	Diesel
5.0.4.10	Household Appliance Mechanics
5.0.4.11	Loom Fixers
5.0.4.12	Office Machine Repairers
5.0.4.13	Radio, Television Repairers
5.0.4.14	Railroad, Car Shop Repairers
5.0.4.15	Mechanics Except Auto Apprentices
5.0.4.16	Other Mechanics, Repairers
5.0.5	Printing Trade Crafts
5.0.5.1	Bookbinders
5.0.5.2	Compositors and Typesetters
5.0.5.3	Electrotypers, Stereotypers
5.0.5.4	Engravers, Except Photoengravers
5.0.5.5	Photoengravers, Lithographers
5.0.5.6	Printing Press Operators
5.0.5.7	Printing Press Apprentices
5.0.5.8	Printing Apprentices, Except Press
5.0.6	Transportation, Public Utility, Craft
5.0.6.1	Electric Power Line and Cable Installers
5.0.6.2	Locomotive Engineers
5.0.6.3	Locomotive Engineer Helper
5.0.6.4	Power Station Operators
5.0.6.5	Telephone Installers and Repairers
5.0.6.6	Telephone Line Installers
5.0.7	Other Crafts, Kindred Workers
5.0.7.1	Bakers
5.0.7.2	Cabinetmakers
5.0.7.3	Carpet Installers
5.0.7.4	Crane, Derrick and Hoist Operators
5.0.7.5	Decorators, Window Dressers
5.0.7.6	Dental Laboratory Technician
5.0.7.7	Furniture and Wood Finishing
5.0.7.8	Furriers
5.0.7.9	Glaziers
5.0.7.10	Inspectors, Log and Lumber
5.0.7.11	Inspectors, Other
5.0.7.12	Jewelers and Watchmakers
5.0.7.13	Millers, Grain, Flour, Feed
5.0.7.14	Motion Picture Projectionists
5.0.7.15	Opticians, Lens Grinders, Polishers
5.0.7.16	Piano, Organ Tuners, and Repairers
5.0.7.17	Shipfitters
5.0.7.18	Shoe Repairers
5.0.7.19	Sign Painters and Letters
5.0.7.20	Stationary Engineers
5.0.7.21	Stone Cutters, Stone Carvers
5.0.7.22	Tailors
5.0.7.23	Upholsterers
5.0.7.24	Crafts and Kindred Workers, NEC
5.0.7.25	Craft Apprentices, NEC

Number	Census Title
6	Operatives
6.1	Operatives, Except Transport
6.1.1	Semiskilled Metalworking
6.1.1.1	Drill Press Operatives
6.1.1.2	Furnace Tenders, Smelters and Pourers
6.1.1.3	Grinding Machine Operatives
6.1.1.4	Heaters, Metal
6.1.1.5	Lathe, Milling Machine Operatives
6.1.1.6	Metal Platers
6.1.1.7	Other Precision Machine Operatives
6.1.1.8	Punch Stamping Press Operatives
6.1.1.9	Solderers
6.1.1.10	Welders and Flame Cutters
6.1.2	Semi-skilled Textile
6.1.2.1	Carding, Lapping, Combing
6.1.2.2	Knitters, Loopers and Toppers
6.1.2.3	Spinners, Twisters, Winders
6.1.2.4	Weavers
6.1.2.5	Other Textile Operatives
6.1.3	Semi-skilled Packing, Inspecting
6.1.3.1	Checkers, Examiners Except Manufacturing
6.1.3.2	Graders and Sorters, Manufacturing
6.1.3.3	Meat Wrappers, Retail Trade
6.1.3.4	Packer, Wrapper Except Meat, Produce
6.1.3.5	Produce Grader, Packer Except Factory, Farm
6.1.4	Other Operatives Except Transport
6.1.4.1	Asbestos, Insulation Workers
6.1.4.2	Assemblers
6.1.4.3	Blasters
6.1.4.4	Bottling, Canning Operatives
6.1.4.5	Surveyor Helpers
6.1.4.6	Clothing Ironers, Pressers
6.1.4.7	Cutting Operatives, NEC
6.1.4.8	Dressmakers, Except Factory
6.1.4.9	Drillers, Earth
6.1.4.10	Dry Wall Installers, Lathes
6.1.4.11	Dyers
6.1.4.12	Filer, Polisher, Sander, Buffer
6.1.4.13	Garage Workers, Gas Station Attendants
6.1.4.14	Laundry, Dry Clean Operatives, NEC
6.1.4.15	Meat Cutters, Butchers Except Manufacturing
6.1.4.16	Meat Cutters, Butchers
6.1.4.17	Milliners
6.1.4.18	Mine Operatives, NEC
6.1.4.19	Mixing Operatives
6.1.4.20	Oilers, Greasers Except Auto
6.1.4.21	Painters, Manufacturing Articles
6.1.4.22	Photographic Process Workers
6.1.4.23	Riveters and Fasteners
6.1.4.24	Sailors and Deckhands
6.1.4.25	Sawyers
6.1.4.26	Sewers and Stitchers
6.1.4.27	Shoemaking Machine Operators
6.1.4.28	Furnace Tenders, Except Metal
6.1.4.29	Winding Operatives, NEC
6.1.4.30	Miscellaneous Machine Operatives
6.1.4.31	Operatives, NEC
6.2	Transport Equipment Operatives
6.2.0.1	Boat Operators
6.2.0.2	Bus Drivers
6.2.0.3	Conductors and Operators
6.2.0.4	Delivery and Route Workers
6.2.0.5	Fork Lift, Tow Motor Operatives
6.2.0.6	Rail Vehicle Operators
6.2.0.7	Parking Attendants
6.2.0.8	Railroad Brake Operators

Number	Census Title
6.2.0.9	Railroad Switch Operators
6.2.0.10	Taxicab Drivers, Chauffeurs
6.2.0.11	Truck Drivers
7	Service Workers
7.0.1	Cleaning Service Workers
7.0.1.1	Cleaning Workers, Except Private
7.0.1.2	Cleaners and Charworkers
7.0.1.3	Janitors and Sextons
7.0.2	Food Service Workers
7.0.2.1	Bartenders
7.0.2.2	Waiter's Assistants
7.0.2.3	Cooks Except Private
7.0.2.4	Dishwashers
7.0.2.5	Food Counter, Fountain Workers
7.0.2.6	Waiters
7.0.2.7	Food Workers, NEC Except Private
7.0.3	Health Service Workers
7.0.3.1	Dental Assistants
7.0.3.2	Health Aides Except Nursing
7.0.3.3	Health Trainees
7.0.3.4	Lay Midwives
7.0.3.5	Nurses Aides, Orderlies
7.0.3.6	Practical Nurses
7.0.4	Personal Service Workers
7.0.4.1	Flight Attendants
7.0.4.2	Attendants, Recreation, Amusement
7.0.4.3	Attendants, Personal Service, NEC
7.0.4.4	Baggage Porters and Bellhops
7.0.4.5	Barbers
7.0.4.6	Boarding, Lodging Housekeepers
7.0.4.7	Bootblacks
7.0.4.8	Child Care Workers Except Private
7.0.4.9	Elevator Operators
7.0.4.10	Hairdressers, Cosmetologists
7.0.4.11	Housekeepers Except Private
7.0.4.12	Personal Service Apprentices
7.0.4.13	School Monitors
7.0.4.14	Ushers, Recreation, Amusement
7.0.4.15	Welfare Service Aides
7.0.5	Protective Service Workers
7.0.5.1	Crossing Guard, Bridgetenders
7.0.5.2	Fire Fighters
7.0.5.3	Guards
7.0.5.4	Marshals and Constables
7.0.5.5	Police Officers and Detectives
7.0.5.6	Sheriffs and Bailiffs
7.0.6	Private Household Workers
7.0.6.1	Child Care Workers
7.0.6.2	Cooks, Private
7.0.6.3	Housekeepers, Private
7.0.6.4	Launderers, Private
7.0.6.5	Cleaners and Servants, Private
8	Laborers Except Farm
8.0.0.1	Animal Caretakers Except Farm
8.0.0.2	Carpenters, Helpers
8.0.0.3	Construction Labor, Except Carpenters Helpers
8.0.0.4	Fishers and Oysterers
8.0.0.5	Freight, Material Handlers
8.0.0.6	Garbage Collectors
8.0.0.7	Gardeners, Groundskeepers Except Farm
8.0.0.8	Longshore Workers and Stevedores
8.0.0.9	Timbercutting and Logging Workers
8.0.0.10	Stock Handlers
8.0.0.11	Teamsters
8.0.0.12	Vehicle Washer. Equipment Cleaners
8.0.0.13	Warehouse Laborers, NEC

Number	Census Title
8.0.0.14	Other Laborers
9	Farmers and Farm Workers
9.0.1	Farmers and Farm Managers
9.0.1.1	Farmers (Owners and Tenents)
9.0.1.2	Farm Managers
9.0.2	Farm Laborers Except Farm Supervisors
9.0.2.1	Farm Labor Supervisors
9.0.2.2	Farm Laborers, Wage Workers
9.0.2.3	Farm Laborers, Unpaid Family
9.0.2.4	Farm Laborers, Self-Employed

APPENDIX K

RECAST OCCUPATIONAL MATRIX AND CROSS-WALK OF CENSUS TITLE TO OE PROGRAM AREAS

CROSS-WALK OF CENSUS TITLE TO OE TITLE

Census Occupational Title	Recast Occupational Title	Allocated Percentage	OE Number	OE Program Title	Distribution Percentage
Engineers, Sales	Voc. Engineers (Sales)	.3333	04.12	Industrial Marketing	100.00
Engineers, Others	Voc. Engineers (Others)	.6670	16.01	Engineering-Related Technology	100.00
Atmospheric, Space Scientist	Voc. Atmospheric (Space Scientist)	.5000	16.06	Miscellaneous Technical Education	100.00
Biological Scientists	Voc. Biological Scientists	.2500	07.02	Medical Laboratory Technology	100.00
Agri., Biolog. Tech. Exc. Health	Voc. Agri., Biolog. Tech. Exc. Health	.7500	01.02	Agricultural Supplies/ Services	34.00
			16.01	Engineering-Related Technology	33.00
			16.02	Agricultural-Related Technology	33.00
Chemical Technicians	Voc. Chemical Technicians	1.0000	16.01	Engineering-Related Technology	100.00
Drafters	Voc. Drafters	.8000	17.13	Drafting	100.00
Electrical, Electronic Tech.	Voc. Electrical, Electronic Tech.	1.0000	16.01	Engineering-Related Technology	100.00
Industrial Engineering Tech.	Voc. Industrial Engineering Tech.	.7500	16.01	Engineering-Related Technology	100.00
Mechanical Engineering Tech.	Voc. Mechanical Engineering Tech.	1.0000	16.01	Engineering-Related Technology	100.00
Engineering, Science Tech. NEC	Voc. Engineering, Science Tech. NEC	1.0000	16.01	Engineering-Related Technology	100.00
Pharmacists	Voc. Pharmacists	.5000	04.08	General Merchandise	100.00
Registered Nurses	Voc. Registered Nurses	.5000	07.03	Nursing (Associate Degree)	100.00
Therapists	Voc. Therapists	.4300	07.03	Nursing	34.00
			07.04	Rehabilitation	33.00
			07.09	Miscellaneous Health Occupations Ed.	33.00
Clinical Lab. Technol., Tech.	Voc. Clinical Lab Technol, Tech.	1.0000	07.02	Medical Laboratory Technology	100.00
Dental Hygienists	Voc. Dental Hygienists	1.0000	07.01	Dental (Associate Degree)	100.00
Health Record Technol., Tech.	Voc. Health Record Technol., Tech.	.2000	07.09	Miscellaneous Health	100.00
Radiologic Technol., Tech.	Voc. Radiologic Technol., Tech.	1.0000	17.20	Industrial Atomic Energy Occupations	100.00
Therapy Assistants	Voc. Therapy Assistants	1.0000	07.04	Rehabilitation	100.00

Census Occupational Title	Recast Occupational Title	Allocated Percentage	OE Number	OE Program Title	Distribution Percentage
Other Health Technol., Tech.	Voc. Other Health Technol., Tech.	1.0000	07.02	Medical Laboratory Technology	34.00
			07.03	Nursing	33.00
			07.09	Miscellaneous Health Occupations Ed.	33.00
Airplane Pilots	Voc. Airplane Pilots	1.0000	16.06	Miscellaneous Technical Education	100.00
Air Traffic Controllers	Voc. Air Traffic Controllers	1.0000	17.04	Aviation Occupations	100.00
Embalmers	Voc. Embalmers	1.0000	04.15	Personal Services	50.00
			07.09	Miscellaneous Health Occupations Ed.	50.00
Flight Engineers	Voc. Flight Engineers	1.0000	17.04	Aviation Occupations	100.00
Tool Programmers, Numerical	Voc. Tool Programmers, Numerical	1.0000	16.01	Engineering-Related Technology	100.00
Other Technicians Exc. Health	Voc. Other Technicians Exc. Health	1.0000	16.01	Engineering-Related Technology	100.00
Computer Programmers	Voc. Computer Programmers	1.0000	14.02	Business Data Processing Systems Occupations	50.00
			16.01	Engineering-Related Technology	50.00
Computer Systems Analysts	Voc. Computer Systems Analysts	.5000	14.02	Business Data Processing Systems Occupations	100.00
Other Computer Specialists, NEC	Voc. Other Computer Specialists, NEC	.5000	14.02	Business Data Processing Systems Occupations	100.00
Economists	Voc. Economists	.3300	04.01	Advertising Services	100.00
Athletes and Kindred Workers	Voc. Athletes and Kindred Workers	.1400	01.01	Agricultural Production	100.00
Designers	Voc. Designers	.5000	17.07	Commercial Art Occupations	100.00
Editors and Reporters	Voc. Editors and Reporters	.1400	04.01	Advertising Services	100.00
Painters and Sculptors	Voc. Painters and Sculptors	.4000	17.07	Commercial Art Occupations	100.00
Photographers	Voc. Photographers	.2500	04.15	Personal Services	100.00
Public Relations Specialists, Writers	Voc. Public Relations Specialists, Writers	.5000	04.01	Advertising Services	100.00
Writers, Artists, Entertainers, NEC	Voc. Writers, Artists, Entertainers, NEC	.2500	01.01	Agricultural Production	100.00
Accountants	Voc. Accountants	.3300	14.03	Filing, Office Machines, General Office, Clerical Occupations	100.00
Farm Management Advisors	Voc. Farm Management Advisors	1.0000	01.02	Agricultural Supplies/ Services	100.00

Census Occupational Title	Recast Occupational Title	Allocated Percentage	OE Number	OE Program Title	Distribution Percentage
Foresters, Conservationists	Voc. Foresters, Conservationists	.6700	01.06	Agricultural Resources	100.00
Home Management Advisors	Voc. Home Management Advisors	.1500	09.02	Home Economist Assisting	100.00
Librarians	Voc. Librarians	.2000	14.04	Information Communication Occupations	100.00
Operations, Systems Research	Voc. Operations, Systems Research	.5000	14.08	Supervisory and Administrative Management Occupations	100.00
Personnel, Labor Relations	Voc. Personnel, Labor Relations	.6700	14.06	Personnel Training and Related Occupations	100.00
Recreation Workers	Voc. Recreation Workers	.1700	04.18	Recreation and Tourism	100.00
Bank, Financial Managers	Voc. Bank, Financial Managers	.1700	04.04	Finance and Credit	100.00
Credit Managers	Voc. Credit Managers	1.0000	14.08	Supervisory and Administrative Management Occupations	100.00
Buyers, Shippers, Farm Prod.	Voc. Buyers, Shippers, Farm Prod.	1.0000	01.01 01.04 04.06	Agricultural Production Agricultural Products Food Distribution	34.00 33.00 33.00
Buyers, Wholesale, Retail	Voc. Buyers, Wholesale, Retail	1.0000	04.08 04.99	General Merchandise Distributive Education, Other	50.00 50.00
Purchasing Agents, Buyers, NEC	Voc. Purchasing Agents, Buyers, NEC	.6700	04.17 04.99	Real Estate Distributive Education, Other	50.00 50.00
Sales Manager, Retail Trade	Voc. Sales Manager, Retail Trade	1.0000	04.06 04.08 04.12 04.16	Food Distribution General Merchandise Industrial Marketing Petroleum	25.00 25.00 25.00 25.00
Sales Manager, Exc. Ret. Trade	Voc. Sales Manager, Exc. Ret. Trade	1.0000	04.12	Industrial Marketing	100.00
Assess, Control, Loc. Pub. Admin.	Voc. Assess, Control, Loc. Pub. Admin.	.3300	14.08	Supervisory and Administrative Management Occupations	100.00
Construction Inspector, Pub.	Voc. Construction Inspector, Pub.	1.0000	17.28	Public Service Occupations	100.00
Inspectors, Exc. Construct., Pub.	Voc. Inspectors, Exc. Construct., Pub.	.2000	17.03	Automobile Services	100.00
Officials, Admins., Pub., NEC	Voc. Officials, Admins., Pub., NEC	1.0000	14.08	Supervisory and Administrative Management Occupations	100.00
Postmasters and Mail Super.	Voc. Postmasters and Mail Super.	1.0000	14.04	Information Communication Occupations	100.00
Funeral Directors	Voc. Funeral Directors	1.0000	04.15	Personal Services	100.00

Census Occupational Title	Recast Occupational Title	Allocated Percentage	OE Number	OE Program Title	Distribution Percentage
Mgrs., Superintendents, Bldg.	Voc. Mgrs., Superintendents, Bldg.	1.0000	04.11	Hotel and Lodging	50.00
			04.17	Real Estate	50.00
Officers, Pilots, Pursers, Ship	Voc. Officers, Pilots, Pursers, Ship	.2500	17.08	Commercial Fishing Occupations	100.00
Restaurant, Cafe, Bar Mgrs.	Voc. Restaurant, Cafe, Bar Mgrs.	1.0000	04.07	Food Services	34.00
			04.08	General Merchandise	33.00
			09.02	Occupational Preparation (Home Economist)	33.00
Other Mgrs., Administrators	Voc. Other Mgrs., Administrators	.3300	04.08	General Merchandise	100.00
Advertising Agents, Sales Workers	Voc. Advertising Agents, Sales Workers	1.0000	04.01	Advertising Services	100.00
Auctioneers	Voc. Auctioneers	1.0000	04.08	General Merchandise	100.00
Demonstrators	Voc. Demonstrators	1.0000	04.02	Apparel and Accessories	34.00
			04.08	General Merchandise	33.00
			04.20	Retail Trade, Other	33.00
Hucksters and Peddlers	Voc. Hucksters and Peddlers	1.0000	04.08	General Merchandise	50.00
			04.20	Retail Trade, Other	50.00
Insurance Agents, Brokers, Etc.	Voc. Insurance Agents, Brokers, Etc.	1.0000	04.13	Insurance	100.00
Real Estate Agents, Brokers	Voc. Real Estate Agents, Brokers	1.0000	04.17	Real Estate	100.00
Stock and Bond Sales Agents	Voc. Stock and Bond Sales Agents	.5000	04.04	Finance and Credit	100.00
Sales Repres., Mfg.	Voc. Sales Repres., Mfg.	1.0000	04.06	Food Distribution	34.00
			04.09	Hardware, Bldg. Materials, Farm and Garden Supplies	33.00
			04.12	Industrial Marketing	33.00
Sales Repres., Wholesale Trade	Voc. Sales Repres., Wholesale Trade	1.0000	04.03	Automotive	25.00
			04.06	Food Distribution	25.00
			04.09	Hardware, Bldg. Materials, Farm and Garden Supplies	25.00
			04.12	Industrial Marketing	25.00
Sales Clerks, Retail Trade	Voc. Sales Clerks, Retail Trade	1.0000	04.02	Apparel and Accessories	50.00
			04.08	General Merchandise	50.00
Sales Workers, Retail Trade	Voc. Sales Workers, Retail Trade	1.0000	04.03	Automotive	25.00
			04.08	General Merchandise	25.00
			04.09	Hardware, Bldg. Materials	25.00
			04.10	Home Furnishings	25.00
Sales Workers, Serv. and Constr.	Voc. Sales Workers, Serv. and Constr.	.6700	04.08	General Merchandise	50.00
			04.99	Distributive Education, Other	50.00
Secretaries, Legal	Voc. Secretaries, Legal	1.0000	14.07	Stenographic, Secretarial and Related Occupations	100.00
Secretaries, Medical	Voc. Secretaries, Medical	1.0000	14.07	Stenographic, Secretarial and Related Occupations	100.00

Census Occupational Title	Recast Occupational Title	Allocated Percentage	OE Number	OE Program Title	Distribution Percentage
Secretaries, Other	Voc. Secretaries, Other	1.0000	14.07	Stenographic, Secretarial and Related Occupations	100.00
Stenographers	Voc. Stenographers	1.0000	14.07	Stenographic, Secretarial and Related Occupations	100.00
Typists	Voc. Typists	1.0000	14.09	Typing and Related Occupations	100.00
Bookkeeping, Billing Operators	Voc. Bookkeeping, Billing Operators	1.0000	14.01	Accounting and Computing Occupations	50.00
			14.03	Filing, Office Machines, and General Office, Clerical Occupations	50.00
Calculating Machine Operators	Voc. Calculating Machine Operators	1.0000	14.01	Accounting and Computing Occupations	100.00
Computer, Peripheral Equip.	Voc. Computer, Peripheral Equip.	1.0000	14.02	Business Data Processing Systems Occupations	100.00
Duplicating Machine Operators	Voc. Duplicating Machine Operators	1.0000	14.03	Filing, Office Machines, and General Office Clerical Occupations	100.00
Keypunch Operators	Voc. Keypunch Operators	1.0000	14.02	Business Data Processing Systems Occupations	100.00
Tabulating Machine Operators	Voc. Tabulating Machine Operators	1.0000	14.01	Accounting and Computing Occupations	34.00
			14.02	Business Data Processing Systems Occupations	33.00
			14.03	Filing, Office Machines, and General Office, Clerical Occupations	33.00
Other Office Mach. Operators	Voc. Other Office Mach. Operators	1.0000	14.03	Filing, Office Machines, and General Office, Clerical Occupations	50.00
			14.04	Information Communication Occupations	25.00
			17.09	Commercial Photography Occupations	25.00
Bank Tellers	Voc. Bank Tellers	1.0000	14.01	Accounting and Computing Occupations	100.00
Billing Clerks	Voc. Billing Clerks	1.0000	14.03	Filing, Office Machines, and General Office, Clerical Occupations	100.00
Bookkeepers	Voc. Bookkeepers	1.0000	14.01	Accounting and Computing Occupations	50.00
			14.03	Filing, Office Machines, and General Office, Clerical Occupations	50.00
Cashiers	Voc. Cashiers	1.0000	04.06	Food Distribution	34.00
			04.08	General Merchandise	33.00
			14.01	Accounting and Computing Occupations	33.00

Census Occupational Title	Recast Occupational Title	Allocated Percentage	OE Number	OE Program Title	Distribution Percentage
Clerical Assist., Soc. Welfare	Voc. Clerical Assist., Soc. Welfare	1.0000	14.03	Filing, Office Machines, and General Office, Clerical Occupations	100.00
Clerical Supervisors, NEC	Voc. Clerical Supervisors, NEC	1.0000	14.02 14.03 14.08	Business Data Processing Systems Occupations Filing, Office Machines, and General Office, Clerical Occupations Supervisory and Administrative Management Occupations	34.00 33.00 33.00
Collectors, Bill and Account	Voc. Collectors, Bill and Account	1.0000	04.08 14.99	General Merchandise Other Office Occupations	50.00 50.00
Counter Clerks, Exc. Food	Voc. Counter Clerks, Exc. Food	.6700	04.11 17.16	Hotel and Lodging Fabric Maintenance Service	50.00 50.00
Dispatchers, Starter, Vehicle	Voc. Dispatchers, Starter, Vehicle	.3300	14.05	Material Support Occupations	100.00
Enumerators and Interviewers	Voc. Enumerators and Interviewers	1.0000	14.04	Information Communication Occupations	100.00
Estimators, Investigators, NEC	Voc. Estimators, Investigators, NEC	1.0000	14.01 14.99	Accounting and Computing Occupations Other Office Occupations	50.00 50.00
Expediters, Prod. Controllers	Voc. Expediters, Prod. Controllers	1.0000	14.05	Materials Support Occupations	100.00
File Clerks	Voc. File Clerks	1.0000	14.03 14.06	Filing, Office Machines, and General Office, Clerical Occupations Personnel Training and Related Occupations	50.00 50.00
Insurance, Adjust., Exam.	Voc. Insurance, Adjust., Exam.	1.0000	04.13 14.05	Insurance Materials Support Occupations	50.00 50.00
Library Attendants, Assist.	Voc. Library Attendants, Assist.	.5000	14.04	Information Communication Occupations	100.00
Mail Carriers, Post Office	Voc. Mail Carriers, Post Office	1.0000	14.04	Information Communication Occupations	100.00
Mail Handler, Exc. Post Office	Voc. Mail Handler, Exc. Post Office	1.0000	14.04	Information Communication Occupations	100.00
Messengers and Office Helpers	Voc. Messengers and Office Helpers	.6700	14.04	Information Communication Occupations	100.00
Meter Readers, Utilities	Voc. Meter Readers, Utilities	1.0000	14.04	Information Communication Occupations	100.00
Payroll, Time Keeping Clerks	Voc. Payroll, Time Keeping Clerks	1.0000	14.01 14.03	Accounting and Computing Occupations Filing, Office Machines, and General Office Clerical Occupations	50.00 50.00

Census Occupational Title	Recast Occupational Title	Allocated Percentage	OE Number	OE Program Title	Distribution Percentage
Postal Clerks	Voc. Postal Clerks	1.0000	14.04	Information Communication Occupations	100.00
Proofreaders	Voc. Proofreaders	1.0000	14.01	Accounting and Computing Occupations	50.00
			14.03	Filing, Office Machines, and General Office, Clerical Occupations	50.00
Real Estate Appraisers	Voc. Real Estate Appraisers	1.0000	04.17	Real Estate	100.00
Receptionists	Voc. Receptionists	1.0000	14.04	Information Communication Occupations	100.00
Shipping, Receiving Clerks	Voc. Shipping, Receiving Clerks	1.0000	14.05	Materials Support Occupations	100.00
Statistical Clerks	Voc. Statistical Clerks	1.0000	14.03	Filing, Office Machines, and General Office, Clerical Occupations	50.00
			14.99	Other Office Occupations	50.00
Stock Clerks, Store Keepers	Voc. Stock Clerks, Store Keepers	.6700	04.20	Retail Trade, Other	50.00
			14.05	Materials Support Occupations	50.00
Telegraph Messengers	Voc. Telegraph Messengers	1.0000	14.04	Information Communication Occupations	100.00
Telegraph Operators	Voc. Telegraph Operators	1.0000	14.04	Information Communication Occupations	50.00
			14.09	Typing and Related Occupations	50.00
Telephone Operators	Voc. Telephone Operators	1.0000	14.04	Information Communication Occupations	100.00
Ticket Station, Express Agts.	Voc. Ticket Station, Express Agts.	1.0000	04.19	Transportation	100.00
Misc. Clerical Workers, NEC	Voc. Misc. Clerical Workers, NEC	1.0000	14.03	Filing, Office Machines, and General Office, Clerical Occupations	50.00
			14.04	Information Communication Occupations	50.00
Carpenters	Voc. Carpenters	1.0000	17.10	Construction and Maintenance Trades	100.00
Carpenters Apprentices	Voc. Carpenters Apprentices	.5000	17.10	Construction and Maintenance Trades	100.00
Brickmasons and Stonemasons	Voc. Brickmasons and Stonemasons	1.0000	17.10	Construction and Maintenance Trades	100.00
Brick., Stonemason Apprent.	Voc. Brick., Stonemason Apprent.	.5000	17.10	Construction and Maintenance Trades	100.00
Bulldozer Operators	Voc. Bulldozer Operators	.5000	17.10	Construction and Maintenance Trades	100.00

Census Occupational Title	Recast Occupational Title	Allocated Percentage	OE Number	OE Program Title	Distribution Percentage
Cement, Concrete Finishers	Voc. Cement, Concrete Finishers	1.0000	17.10	Construction and Maintenance Trades	100.00
Electricians	Voc. Electricians	1.0000	17.10 17.14	Construction and Maintenance Trades Electrical Occupations	50.00 50.00
Electrician Apprentice	Voc. Electrician Apprentice	.5000	17.10 17.14	Construction and Maintenance Trades Electrical Occupations	50.00 50.00
Excavating, Grading Mach. Operator	Voc. Excavating, Grading Mach. Operator	1.0000	17.10	Construction and Maintenance Trades	100.00
Floor Layers, Exc. Tile Setters	Voc. Floor Layers, Exc. Tile Setters	.5000	17.10	Construction and Maintenance Trades	100.00
Painters, Construction, Maint.	Voc. Painters, Construction, Maint.	1.0000	17.10	Construction and Maintenance Trades	100.00
Painter Apprent.	Voc. Painter Apprent.	.5000	17.10	Construction and Maintenance Trades	100.00
Paperhangers	Voc. Paperhangers	1.0000	17.10	Construction and Maintenance Trades	100.00
Plasterers	Voc. Plasterers	1.0000	17.10	Construction and Maintenance Trades	100.00
Plasterer Apprent.	Voc. Plasterer Apprent.	.5000	17.10	Construction and Maintenance Trades	100.00
Plumbers and Pipefitters	Voc. Plumbers and Pipefitters	1.0000	17.10	Construction and Maintenance Trades	100.00
Plumbers and Pipefitters Apprent.	Voc. Plumbers and Pipefitters Apprent.	.5000	17.10	Construction and Maintenance Trades	100.00
Roofer and Slaters	Voc. Roofer and Slaters	.5000	17.10	Construction and Maintenance Trades	100.00
Structural Metal Craft	Voc. Structural Metal Craft	1.0000	17.10 17.23	Construction and Maintenance Trades Metalworking Occupations	50.00 50.00
Tilesetters	Voc. Tilesetters	1.0000	17.10	Construction and Maintenance Trades	100.00
Blacksmiths	Voc. Blacksmiths	1.0000	01.02 17.23	Agricultural Supplies/ Services Metalworking Occupations	50.00 50.00
Boilermakers	Voc. Boilermakers	1.0000	17.10	Construction and Maintenance Trades	100.00
Heat Treaters, Annealers, Etc.	Voc. Heat Treaters, Annealers, Etc.	.5000	16.01 17.24	Engineering-Related Technology Metallurgy	50.00 50.00
Forge and Hammer Operations	Voc. Forge and Hammer Operations	.5000	17.23	Metalworking Occupations	100.00

Census Occupational Title	Recast Occupational Title	Allocated Percentage	OE Number	OE Program Title	Distribution Percentage
Job and Die Setters, Metal	Voc. Job and Die Setters, Metal	.6700	17.23	Metalworking Occupations	100.00
Machinists	Voc. Machinists	1.0000	17.23	Metalworking Occupations	100.00
Machinists Apprent.	Voc. Machinists Apprent.	.5000	17.23	Metalworking Occupations	100.00
Millwrights	Voc. Millwrights	1.0000	17.10	Construction and Maintenance Trades	100.00
Molders, Metal	Voc. Molders, Metal	.5000	17.23	Metalworking Occupations	100.00
Molders, Apprent.	Voc. Molders, Apprent.	.5000	17.23	Metalworking Occupations	100.00
Pattern and Model Makers	Voc. Pattern and Model Makers	1.0000	17.23	Metalworking Occupations	100.00
Rollers and Finishers, Metal	Voc. Rollers and Finishers, Metal	.5000	17.23	Metalworking Occupations	100.00
Sheet Metal Workers, Tinsmiths	Voc. Sheet Metal Workers, Tinsmiths	1.0000	17.23	Metalworking Occupations	100.00
Sheet Metal Apprent.	Voc. Sheet Metal Apprent.	.5000	17.23	Metalworking Occupations	100.00
Tool, Diemakers	Voc. Tool, Diemakers	1.0000	17.23	Metalworking Occupations	100.00
Tool, Diemaker Apprent.	Voc. Tool, Diemaker Apprent.	.5000	17.23	Metalworking Occupations	100.00
Air Cond., Heating, Refrig.	Voc. Air Cond., Heating, Refrig.	1.0000	17.01	Air Conditioning	100.00
Aircraft	Voc. Aircraft	1.0000	17.04	Aviation Occupations	100.00
Auto Accessories Instalr.	Voc. Auto Accessories Instalr.	1.0000	17.03 17.35	Automobile Services Upholstering	50.00 50.00
Auto Body Repairers	Voc. Auto Body Repairers	1.0000	17.03	Automobile Services	100.00
Auto Mechanics	Voc. Auto Mechanics	1.0000	17.03	Automobile Services	100.00
Auto Mechanics Apprent.	Voc. Auto Mechanics Apprent.	.5000	17.03	Automobile Services	100.00
Data Processing Mach. Repairers	Voc. Data Processing Mach. Repairers	.5000	16.01 17.06	Engineering-Related Technology Business Machine Maintenance	50.00 50.00
Farm Implement	Voc. Farm Implement	1.0000	01.03 17.03	Agricultural Mechanics Automobile Services	50.00 50.00
Heavy Equip. Mech., Incl. Diesel	Voc. Heavy Equip. Mech., Incl. Diesel	.5000	17.03 17.10	Automobile Services Construction and Maintenance Trades	50.00 50.00
Household Appliance Mechanics	Voc. Household Appliance Mechanics	1.0000	17.02	Appliance Repair	100.00
Loom Fixers	Voc. Loom Fixers	1.0000	17.33	Textile Production and Fabrication	100.00

Census Occupational Title	Recast Occupational Title	Allocated Percentage	OE Number	OE Program Title	Distribution Percentage
Office Machine Repairers	Voc. Office Machine Repairers	1.0000	04.12 17.06	Industrial Marketing Business Machine Maintenance	50.00 50.00
Radio, Television Repairers	Voc. Radio, Television Repairers	.6700	16.01 17.15	Engineering-Related Technology Electronics Occupations	50.00 50.00
Railroad, Car Shop Repairers	Voc. Railroad, Car Shop Repairers	.5000	17.12	Diesel Mechanic	100.00
Mechanics Exc. Auto Apprent.	Voc. Mechanics Exc. Auto Apprent.	.3300	17.22	Maritime Occupations	100.00
Other Mechanics, Repairers	Voc. Other Mechanics, Repairers	.3400	17.31 17.21	Small Engine Repair, Internal Combustion Instrument Repair and Maintenance Occupations	50.00 50.00
Bookbinders	Voc. Bookbinders	.1500	17.19	Graphic Arts Occupations	100.00
Compositors and Typesetters	Voc. Compositors and Typesetters	1.0000	17.19	Graphic Arts Occupations	100.00
Electrotypers, Stereotypers	Voc. Electrotypers, Stereotypers	.5000	17.19	Graphic Arts Occupations	100.00
Engravers, Exc. Photoengravers	Voc. Engravers, Exc. Photoengravers	.5000	17.23	Metalworking Occupations	100.00
Photoengravers, Lithographers	Voc. Photoengravers, Lithographers	1.0000	17.19 17.23	Graphic Arts Occupations Metalworking Occupations	50.00 50.00
Printing Press Operators	Voc. Printing Press Operators	1.0000	17.19	Graphic Arts Occupations	100.00
Printing Press Apprent.	Voc. Printing Press Apprent.	.5000	17.19	Graphic Arts Occupations	100.00
Printing Apprent., Exc. Press	Voc. Printing Apprent. Exc. Press	.7500	17.19	Graphic Arts Occupations	100.00
Electric Power Line and Cable Installers	Voc. Electric Power Line and Cable Installers	.5000	17.14	Electrical Occupations	100.00
Power Station Operators	Voc. Power Station Operators	.5000	17.32	Stationary Energy Sources Occupations	100.00
Telephone Installers and Repairers	Voc. Telephone Installers Repairers	.3300	17.15	Electronics Occupations	100.00
Telephone Line Installers	Voc. Telephone Line Installers	.6700	17.14	Electrical Occupations	100.00
Bakers	Voc. Bakers	1.0000	17.29	Quantity Food Occupations	100.00
Cabinetmakers	Voc. Cabinetmakers	1.0000	17.36	Woodworking Occupations	100.00
Carpet Installers	Voc. Carpet Installers	.1000	17.10	Construction and Maintenance Trades	100.00
Crane, Derrick and Hoist Operators	Voc. Crane, Derrick and Hoist Operators	.5000	17.10	Construction and Maintenance Trades	100.00

Census Occupational Title	Recast Occupational Title	Allocated Percentage	OE Number	OE Program Title	Distribution Percentage
Decorators, Window Dressers	Voc. Decorators, Window Dressers	1.0000	04.01	Advertising Services	34.00
			04.05	Floristry	33.00
			17.07	Commercial Art Occupations	33.00
Dental Laboratory Tech.	Voc. Dental Laboratory Tech.	1.0000	07.01	Dental	100.00
Glaziers	Voc. Glaziers	1.0000	17.10	Construction and Maintenance Trades	100.00
Inspectors, Other	Voc. Inspectors, Other	.3300	17.24	Metallurgy	100.00
Jewelers and Watchmakers	Voc. Jewelers and Watchmakers	.5000	17.21	Instrument Repairs and Maintenance Occupations	100.00
Millers, Grain, Flour, Feed	Voc. Millers, Grain, Flour, Feed	.5000	04.06	Food Distribution	100.00
Opticians, Lens Grinder, Polisher	Voc. Opticians, Lens Grinder, Polisher	1.0000	07.06	Ophthalmic	50.00
			17.21	Instrument Repair and Maintenance Occupations	50.00
Shoe Repairers	Voc. Shoe Repairers	1.0000	17.34	Leatherworking	100.00
Stationary Engineers	Voc. Stationary Engineers	1.0000	17.32	Stationary Energy Sources Occupations	100.00
Tailors	Voc. Tailors	.6700	17.16	Fabric Maintenance Services	50.00
			17.33	Textile Production and Fabrication	50.00
Upholsterers	Voc. Upholsterers	1.0000	17.34	Leatherworking	50.00
			17.35	Upholstering	50.00
Craft and Kindred Workers, NEC	Voc. Craft and Kindred Workers, NEC	.3300	17.33	Textile Production and Fabrication	100.00
Craft Apprent. NEC	Voc. Craft Apprent., NEC	.2900	17.36	Woodworking Occupations	50.00
			14.04	Information Communications Occupations	50.00
Drill Press Operatives	Voc. Drill Press Operatives	1.0000	17.23	Metalworking Occupations	100.00
Furnace Tenders, Smelters and Pourers	Voc. Furnace Tenders, Smelters and Pourers	1.0000	17.23	Metalworking Occupations	100.00
Grinding Machine Operatives	Voc. Grinding Machine Operatives	1.0000	17.23	Metalworking Occupations	100.00
Lathe, Milling Mach. Operatives	Voc. Lathe, Milling Mach. Operatives	1.0000	17.23	Metalworking Occupations	100.00
Metal Platers	Voc. Metal Platers	.3300	17.23	Metalworking Occupations	100.00
Other Precision Mach. Operators	Voc. Other Precision Mach. Operators	.5000	17.23	Metalworking Occupations	100.00
Punch Stamping Press Operator	Voc. Punch Stamping Press Operator	1.0000	17.23	Metalworking Occupations	100.00

Census Occupational Title	Recast Occupational Title	Allocated Percentage	OE Number	OE Program Title	Distribution Percentage
Solderers	Voc. Solderers	.3300	17.23	Metalworking Occupations	100.00
Welders and Flame Cutters	Voc. Welders and Flame Cutters	1.0000	17.23	Metalworking Occupations	100.00
Carding, Lapping, Combing	Voc. Carding, Lapping, Combing	.3300	17.33	Textile Production and Fabrication	100.00
Knitters, Loopers and Toppers	Voc. Knitters, Loopers and Toppers	.5000	17.33	Textile Production and Fabrication	100.00
Spinners, Twisters, Winders	Voc. Spinners, Twisters, Winders	.2500	17.33	Textile Production and Fabrication	100.00
Weavers	Voc. Weavers	.5000	17.33	Textile Production and Fabrication	100.00
Other Textile Operatives	Voc. Other Textile Operatives	.1000	17.33	Textile Production and Fabrication	100.00
Checkers, Examiners, Exc. Mfg.	Voc. Checkers, Examiners, Exc. Mfg.	.5000	09.02	Occupational Preparation (Home Economist)	100.00
Graders and Sorters, Mfg.	Voc. Graders and Sorters, Mfg.	.5000	14.05 17.08	Materials Support Occupations Commercial Fishing Occupations	50.00 50.00
Asbestos, Insulation Workers	Voc. Asbestos, Insulation Workers	1.0000	17.10	Construction and Maintenance Trades	100.00
Blasters	Voc. Blasters	.5000	17.10	Construction and Maintenance Trades	100.00
Clothing Ironers, Pressers	Voc. Clothing Ironers, Pressers	1.0000	17.16	Fabric Maintenance Services	100.00
Cutting Operatives, NEC	Voc. Cutting Operatives, NEC	1.0000	17.23 17.33	Metalworking Occupations Textile Production and Fabrication	50.00 50.00
Dressmakers, Exc. Fact.	Voc. Dressmakers, Exc. Fact.	1.0000	09.02 17.33	Occupational Preparation (Home Economist) Textile Production and Fabrication	50.00 50.00
Drillers, Earth	Voc. Drillers, Earth	.3300	17.10	Construction and Maintenance Trades	100.00
Dry Wall Installers, Lathes	Voc. Dry Wall Installers, Lathes	1.0000	17.10	Construction and Maintenance Trades	100.00
Dyers	Voc. Dyers	.6700	17.33 17.16	Textile Production and Fabrication Fabric Maintenance Service	50.00 50.00
Filer, Polisher, Sander, Buffer	Voc. Filer, Polisher, Sander, Buffer	1.0000	17.23	Metalworking Occupations	100.00
Garage Workers, Gas Station Attend.	Voc. Garage Workers, Gas Station Attend.	.5000	04.16	Petroleum	100.00

Census Occupational Title	Recast Occupational Title	Allocated Percentage	OE Number	OE Program Title	Distribution Percentage
Laundry, Dry Clean Operator, NEC	Voc. Laundry Dry Clean Operator, NEC	1.0000	17.16	Fabric Maintenance Services	100.00
Meat Cutters, Butchers, Exc. Mfg.	Voc. Meat Cutters, Butchers, Exc. Mfg.	1.0000	17.29	Quantity Food Occupations	100.00
Meat Cutters, Butchers	Voc. Meat Cutters, Butchers	.5000	01.04 17.08 17.29	Agricultural Products Commercial Fishing Occupations Quantity Food Occupations	34.00 33.00 33.00
Milliners	Voc. Milliners	1.0000	17.33	Textile Production and Fabrication	100.00
Mixing Operatives	Voc. Mixing Operatives	.2500	01.02	Agricultural Supplies/ Services	100.00
Painters, Mfg. Articles	Voc. Painters, Mfg. Articles	.2500	17.03 17.10	Automobile Services Construction and Maintenance Trades	50.00 50.00
Photographic Process Workers	Voc. Photographic Process Workers	1.0000	17.09	Commercial Photography Occupations	100.00
Sailors and Deckhands	Voc. Sailors and Deckhands	1.0000	17.08	Commercial Fishing Occupations	100.00
Sawyers	Voc. Sawyers	.7500	17.23 17.36	Metalworking Occupations Woodworking Occupations	50.00 50.00
Sewers and Stitchers	Voc. Sewers and Stitchers	1.0000	17.33	Textile Production and Fabrication	100.00
Shoemaking Machine Operator	Voc. Shoemaking Machine Operator	1.0000	17.34	Leatherworking	100.00
Furnace Tenders, Except Metal	Voc. Furnace Tenders, Except Metal	1.0000	17.32	Stationary Energy Sources Occupations	100.00
Winding Operatives, NEC	Voc. Winding Operatives, NEC	.3300	17.14	Electrical Occupations	100.00
Operatives, NEC	Voc. Operatives, NEC	.1500	17.33	Textile Production and Fabrication	100.00
Boat Operators	Voc. Boat Operators	1.0000	17.08	Commercial Fishing Occupations	100.00
Bus Drivers	Voc. Bus Drivers	.5000	04.19	Transportation	100.00
Conductors, and Operators	Voc. Conductors and Operators	.1000	17.32	Stationary Energy Sources Occupations	100.00
Delivery and Route Workers	Voc. Delivery and Route Workers	.5000	04.06	Food Distributions	100.00
Rail Vehicle Operators	Rail Vehicle Operators	.5000	17.32	Stationary Energy Sources Occupations	100.00
Parking Attendants	Voc. Parking Attendants	1.0000	04.03	Automotive	100.00

Census Occupational Title	Recast Occupational Title	Allocated Percentage	OE Number	OR Program Title	Distribution Percentage
Taxicab Drivers, Chauffeurs	Voc. Taxicab Drivers, Chauffeurs	.3300	04.19	Transportation	100.00
Cleaning Workers Exc. Private	Voc. Cleaning Workers Exc. Private	1.0000	09.02 17.11	Occupational Preparation (Home Economist) Custodial Services	50.00 50.00
Cleaners and Charworker	Voc. Cleaners and Charworker	1.0000	09.02 17.11	Occupational Preparation (Home Economist) Custodial Services	50.00 50.00
Janitors and Sextons	Voc. Janitors and Sextons	.7500	17.10 17.11	Construction and Maintenance Trades Custodial Services	50.00 50.00
Waiter's Assistant	Voc. Waiter's Asst.	1.0000	17.29	Quantity Food Occupations	100.00
Cooks, Exc. Private	Voc. Cooks, Exc. Private	.2500	17.29	Quantity Food Occupations	100.00
Food Counter, Fount. Workers	Voc. Food Counter, Fount. Workers	.5000	17.29	Quantity Food Occupations	100.00
Waiters	Voc. Waiters	1.0000	17.29	Quantity Food Occupations	100.00
Food Workers, NEC, Exc. Private	Voc. Food Workers, NEC, Exc. Private	.2500	17.29	Quantity Food Occupations	100.00
Dental Assistants	Voc. Dental Assistants	1.0000	07.01	Dental	100.00
Health Aides, Except Nursing	Voc. Health Aides, Except Nursing	.3200	07.04 07.09	Rehabilitation Miscellaneous Health Occupations Education	50.00 50.00
Health Trainees	Voc. Health Trainees	1.0000	07.03	Nursing	100.00
Lay Midwives	Voc. Lay Midwives	1.0000	07.03	Nursing	100.00
Nurses Aides, Orderlies	Voc. Nurses Aides, Orderlies	1.0000	07.03	Nursing	100.00
Practical Nurses	Voc. Practical Nurses	1.0000	07.03	Nursing	100.00
Flight Attendant	Voc. Flight Attendant	1.0000	04.19	Transportation	100.00
Attend. Recreation, Amusement	Voc. Attend. Recreation, Amusement	.1000	04.18	Recreation and Tourism	100.00
Attend. Personal Service, NEC	Voc. Attend. Personal Service, NEC	.4900	09.02 04.11 17.11	Occupational Preparation (Home Economist) Hotel and Lodging Custodial Services	34.00 33.00 33.00
Baggage Porters and Bellhops	Voc. Baggage Porters and Bellhops	1.0000	04.11	Hotel and Lodging	100.00
Barbers	Voc. Barbers	1.0000	04.15 17.26	Personal Services Barbering	50.00 50.00
Boarding, Lodging Housekeepers	Voc. Boarding, Lodging Housekeepers	1.0000	04.11	Hotel and Lodging	100.00

Census Occupational Title	Recast Occupational Title	Allocated Percentage	OE Number	OE Program Title	Distribution Percentage
Child Care Workers, Exc. Private	Voc. Child Care Workers Exc. Private	1.0000	09.02	Occupational Preparation (Home Economist)	100.00
Hairdressers, Cosmetologists	Voc. Hairdressers, Cosmetologists	.6700	04.15 17.26	Personal Services (Sales) Cosmetology	50.00 50.00
Housekeepers, Exc. Private	Voc. Housekeepers, Exc. Private	1.0000	04.07 09.02 17.11	Food Services Occupational Preparation (Home Economist) Custodial Services	34.00 33.00 33.00
Personal Service Apprent.	Voc. Personal Service Apprent.	1.0000	04.15 17.26	Personal Services (Sales) Barbering and Cosmetology	50.00 50.00
School Monitors	Voc. School Monitors	.3300	09.02	Occupational Preparation (Home Economist)	100.00
Crossing Guard, Bridgetenders	Voc. Crossing Guard Bridgetenders	.5000	17.28	Public Service Occupations	100.00
Fire Fighters	Voc. Fire Fighters	1.0000	17.28	Public Service Occupations	100.00
Marshals and Constables	Voc. Marshals and Constables	1.0000	17.28	Public Service Occupations	100.00
Police Officers Detectives	Voc. Police Officers and Detectives	.5000	17.28	Public Service Occupations	100.00
Sheriffs and Bailiffs	Voc. Sheriffs and Bailiffs	1.0000	17.28	Public Service Occupations	100.00
Child Care Workers	Voc. Child Care Workers	1.0000	09.02	Occupational Preparation (Home Economist)	100.00
Cooks, Private	Voc. Cooks, Private	1.0000	09.02	Occupational Preparation (Home Economist)	100.00
Housekeepers, Private	Voc. Housekeepers, Private	.5000	09.02	Occupational Preparation (Home Economist)	100.00
Launderers, Private	Voc. Launderers, Private	.3300	09.02	Occupational Preparation (Home Economist)	100.00
Cleaners and Servants, Private	Voc. Cleaners and Servants, Private	.5000	09.02	Occupational Preparation (Home Economist)	100.00
Animal Caretakers, Exc. Farm	Voc. Animal Caretakers, Exc. Farm	.5000	01.02 01.99	Agricultural Supplies/ Services Other Agricultural	50.00 50.00
Carpenters, Helpers	Voc. Carpenters, Helpers	1.0000	17.10	Construction and Maintenance Trades	100.00
Const. Labor, Exc. Carpenter Helper	Voc. Const. Labor, Exc. Carpenter Helper	.5000	17.10	Construction and Maintenance Trades	100.00
Fishers and Oysterers	Voc. Fishers and Oysterers	.5000	17.08	Commercial Fishery	100.00

Census Occupational Title	Recast Occupational Title	Allocated Percentage	OE Number	OE Program Title	Distribution Percentage
Freight, Material Handlers	Voc. Freight, Material Handlers	.6700	04.19 04.20	Transportation Retail Trade, Other	50.00 50.00
Gardeners, Grounds-keeper Exc. Farm	Voc. Gardeners, Grounds-keeper Exc. Farm	.3300	01.05	Ornamental Horticulture	100.00
Stock Handlers	Voc. Stock Handlers	.6700	04.06 04.20	Food Distribution Retail Trade, Other	50.00 50.00
Vehicle Washer, Equip. Cleaners	Voc. Vehicle Washer, Equip. Cleaners	.3300	17.11	Custodial Services	100.00
Warehouse Laborers	Voc. Warehouse Laborers NEC	1.0000	04.20	Retail Trade, Other	100.00
Other Laborers	Voc. Other Laborers	.2500	01.05 04.19 04.20	Ornamental Horticulture Transportation Other Retail Trade	34.00 33.00 33.00
Farmers (Owners and Tenants)	Voc. Farmers (Owners and Tenants)	1.0000	01.01	Agricultural Production	100.00
Farm Managers	Voc. Farm Managers	.8400	01.01 01.04 01.05	Agricultural Production Agricultural Products Ornamental Horticulture	34.00 33.00 33.00
Farm Supervisors	Voc. Farm Supervisors	1.0000	01.01 01.05	Agricultural Production Ornamental Horticulture	50.00 50.00
Farm Laborers, Wage Workers	Voc. Farm Laborers, Wage Workers	1.0000	01.01	Agricultural Production	100.00
Farm Laborers, Unpaid Family	Voc. Farm Laborers, Unpaid Family	.5000	01.01	Agricultural Production	100.00
Farm Laborers, Self-Employed	Voc. Farm Laborers, Self-Employed	1.0000	01.02 01.03	Agricultural Supplies/ Services Agricultural Mechanics	50.00 50.00
Office Managers, NEC	Voc. Office Managers, NEC	1.0000	14.08	Supervisory and Administrative Management Occupations	100.00

APPENDIX L

ATTENDANCE CENTERS AND AREA VOCATIONAL CENTERS PARTICIPATING IN THE FIELD-TEST OF THE MANAGEMENT INFORMATION SYSTEM

DISTRICT NUMBERS AND SCHOOL NUMBERS

MIS District No.	MIS School No.	District or School Name
0001-00		Alton C.U. School District 11
	0001-01	Central Junior High School
	0001-02	East Junior High School
	0001-03	North Junior High School
	0001-04	Alton Senior High School
	0001-05	West Junior High School
0002-00		Bethalto C.U. School District 8
	0002-01	Civic Memorial High School
0003-00		Collinsville C.U. School District 10
	0003-01	Collinsville High School - Greenwood
	0003-02	Collinsville High School - Vandalia
0050-00	0050-01	Collinsville Area Vocational Center
0004-00		Edwardsville C.U. School District 7
	0004-01	Edwardsville Senior High School
0005-00		Granite City C.U. School District 9
	0005-01	Granite City Senior High School South
	0005-02	Granite City Senior High School North
0006-00		Highland C.U. School District 5
	0006-01	Highland Senior High School
0007-00		Livingston C.C. School District 4
	0007-01	Livingston Senior High School
0008-00		Madison C.U. School District 12
	0008-01	Madison Senior High School
0009-00		Roxana C.U. School District 1
	0009-01	Roxana Junior High School
	0009-02	Roxana Senior High School
0010-00		Triad C.U. School District 2
	0010-01	Triad High School
0011-00		Venice C.U. School District 3
	0011-01	Venice Senior High School
0012-00		Wood River-East Alton C.H.S. District 14
	0012-01	Wood River-East Alton High School
0013-00		Worden Unit School District 16
	0013-01	Worden High School
0014-00		Columbia C.U. School District 4
	0014-01	Columbia High School

MIS District No.	MIS School No.	District or School Name
0015-00		Valmeyer C.U. School District 3
	0015-01	Valmeyer High School
0016-00		Waterloo C.U. School District 5
	0016-01	Waterloo High School
0017-00		Carlyle C.U. School District 1
	0017-01	Carlyle High School
0018-00		Central Community High School District 71
	0018-01	Central Community High School
0019-00		Trenton-Wesclin C.U. School District 3
	0019-01	Wesclin Senior High School
0020-00		Belleville Township H.S. District 201
	0020-01	Belleville Township H.S. West
	0020-02	Belleville Township H.S. East
0021-00		Cahokia C.U. School District 187
	0021-01	Cahokia Senior High School
0022-00		Dupo C.U. School District 196
	0022-01	Dupo Junior/Senior High School
0054-00	0054-01	Beck Area Vocational Center
0023-00		East St. Louis School District 189
	0023-01	Clark Junior High School
	0023-02	East St. Louis Lincoln Senior High School
	0023-03	East St. Louis Senior High School
	0023-04	Hughes-Quinn Junior High School
	0023-05	King Junior High School
	0023-06	Lansdowne Junior High School
	0023-07	Rock Junior High School
0024-00		Freeburg Community High School District 77
	0024-01	Freeburg High School
0026-00		Lebanon C.U. School District 9
	0026-01	Lebanon High School
0027-00		Marissa C.U. School District 40
	0027-01	Marissa High School
0028-00		Mascoutah C.U. School District 19
	0028-01	Mascoutah Senior High School
0029-00		New Athens C.U. School District 60
	0029-01	New Athens High School

MIS District No.	MIS School No.	District or School Name
0030-00		O'Fallon Township High School Dist. 203
	0030-01	O'Fallon High School
0070-00		Bond County C.U. School District 2
	0070-01	Greenville High School
0071-00		Mulberry Grove C.U. School District 1
	0071-01	Mulberry Grove Junior-Senior High School
0072-00		Brussels Community High School District 37
	0072-01	Brussels Community High School
0073-00		Calhoun C.U. School District 40
	0073-01	Calhoun High School
0074-00		Carrollton C.U. School District 1
	0074-01	Carrollton High School
0075-00		Greenfield C.U. School District 10
	0075-01	Greenfield High School
0076-00		North Greene C.U. School District 3
	0076-01	North Greene High School
0077-00		Jerseyville C.U. School District 100
	0077-01	Illini Junior High School
	0077-02	Jersey Community High School
0078-00		Chester C.U. School District 139
	0078-01	Chester High School
0079-00		Coulterville Unit School District 1
	0079-01	Coulterville High & Elementary School
0080-00		Red Bud C.U. School District 132
	0080-01	Red Bud High School
0081-00		Sparta C.U. School District 140
	0081-01	Sparta High School
0082-00		Steeleville C.U. School District 138
	0082-01	Steeleville High School
0083-00		Nashville Community High School Dist. 99
	0083-01	Nashville High School
0084-00		West Washington County C.U. School District 10
	0084-01	Okawville High School

MIS District No.	MIS School No.	District or School Name
0085-00		Bunker Hill C.U. School District 8
	0085-01	Bunker Hill High School
0086-00		Carlinville C.U. School District 1
	0086-01	Carlinville High School
0087-00		Gillespie C.U. School District 7
	0087-02	Gillespie High School
0088-00		Girard C.U. School District 3
	0088-01	Girard Junior-Senior High School
0089-00		Mount Olive C.U. School District 5
	0089-01	Mount Olive High School
0090-00		Northwestern C.U. School District 2
	0090-01	Northwestern Junior-Senior High School
0091-00		Southwestern C.U. School District 9
	0091-01	Southwestern High School
0092-00		Staunton C.U. School District 6
	0092-01	Staunton High School
0093-00		Virden C.U. School District 4
	0093-01	Virden High School
0094-00		Centralia Township High School Dist. 200
	0094-01	Centralia High School
0095-00		Kinmundy-Alma C.U. School District 301
	0095-01	Kinmundy-Alma Junior-Senior High School
0096-00		Odin Community High School District 700
	0096-01	Odin High School
0097-00		Patoka C.U. School District 100
	0097-01	Patoka Community Unit School
0098-00		Salem Community High School District 600
	0098-01	Salem High School
0099-00		Sandoval C.U. School District 501
	0099-01	Sandoval High School
0100-00		Hillsboro C.U. School District 3
	0100-01	Hillsboro High School

MIS District No.	MIS School No.	District or School Name
0101-00		Litchfield C.U. School District 12
	0101-01	Litchfield High School
	0101-02	Litchfield Junior High School
0102-00		Nokomis C.U. School District 22
	0102-01	Nokomis High School
0103-00		Panhandle C.U. School District 2
	0103-01	Lincolnwood High School
0104-00		Witt Unit School District 66
	0104-01	Witt Unit School
0105-00		Du Quoin C.U. School District 300
	0105-01	Du Quoin High School
0106-00		Pinckneyville Community High School District 101
	0106-01	Pinckneyville High School
0107-00		Tamaroa Community High School District 102
	0107-01	Tamaroa High School
0108-00		Brownstown C.U. School District 201
	0108-01	Brownstown High School
0109-00		Farina-LaGrove C.U. School District 206
	0109-01	LaGrove High School
0110-00		Ramsey C.U. School District 204
	0110-01	Ramsey High School
0111-00		St. Elmo C.U. School District 202
	0111-01	St. Elmo Senior High School
0112-00		Vandalia C.U. School District 203
	0112-01	Vandalia Community High School
	0112-02	Vandalia Junior High School
0041-00	0041-01	Okaw Area Vocational Center